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14. ABSTRACT

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Running Head: MID-LEVEL LEADERSHIP COMPETENCIES

The Relevant Competencies for Mid-level Navy Nurse Corps Leadership

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Army-Baylor University Graduate Program in Health and Business Administration

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Abstract

The purpose of this research is to achieve consensus among mid-level Navy Nurse Corps officers about the relevant competencies and important skills, knowledge, and abilities (SKAs) required for mid-level leadership. Using two iterations of the Delphi technique, eight competency domains emerged: management, leadership, professional development, personal development, clinical growth and sustainment, deployment readiness and interoperability, communications, and regulatory guidelines. In Wave I, 26 out of 260 nurses identified what they considered to be the five most relevant competencies and SKAs. Reviewed by an expert panel, the results were used to develop the Wave II questionnaire to determine SKA importance ratings. Using the same 260 respondent pool, 31 nurses rated 100-SKA items. The top four rated SKAs were: "critical thinking skills," "self-motivation and initiative," "demonstrates core values and ethical behavior," and "critical thinking and problem solving skills." They are represented by the personal development and management domains.

Table of Contents

List of Figures

List of Tables

List of Appendices

Introduction

Conditions Prompting the Study

Tasked to meet the competing missions of military readiness and deployment, peacekeeping, humanitarian efforts, and health optimization for beneficiaries, Navy healthcare leaders must possess the flexibility to adapt their leadership and executive skills to the ever-changing military health system. "Meeting the military medical training challenges of the new millennium requires the best trained and most experienced medical personnel available" (De Lorenzo, 2005, p. 824). Navy healthcare leaders come from various backgrounds, including nursing. As nurses expand their professional roles, skilled nursing leaders at all levels, including middle management, are in high demand (Scoble & Russell, 2003). Within Navy medicine, nurses' roles are continually evolving and advancing. The constant changes in the dynamic healthcare environment necessitate the determination of the relevant core competencies to promote quality and efficiency within nursing leadership and administration. The purpose of this research is to achieve consensus among Navy Nurse Corps officers about the relevant competencies and important associated skills, knowledge, and abilities (SKAs) required of the Navy's mid-level nurse leadership for the next five to ten years.

The evolving healthcare industry is dominated by competing economic demands, rapid technologic and pharmacologic advancements, intense competition for financial and personnel resources, and government regulation (Ehrat, 2001). According to Shewchuk, O'Connor, and Fine (2005, p.33), "Environmental change has occurred with such speed that the educational component of healthcare management must struggle to keep up-to-date." Nurse leaders must constantly evaluate and upgrade their professional skills, knowledge, and abilities. Competency research seeks to improve healthcare management and education (Shewchuk et al.).

The literature indicates numerous ongoing initiatives towards competency identification and development in the field of general healthcare administration. While there have been studies addressing leadership and core competencies within the civilian nurse sector, there have been limited competency studies within the military nurse sector. However, the need for competency research has been recognized by top military leadership.

Established by Congress in 1992 to serve the nursing research needs of the Armed Services, the TriService Nurse Research Program (TSNRP) met in 2002. The Army, Navy, and Air Force identified the top research priorities as workforce recruitment and retention, developing and sustaining competencies, and deployment health. Identifying service-specific priorities, the Navy Nurse Corps' top research priorities were: developing and sustaining competencies (leadership), recruitment and retention, and developing and sustaining competencies (core competencies). Identification of competencies and associated SKAs can facilitate the development and sustainment of competencies (Duong et al., 2005). Specifically, Rear Admiral Christine Bruzek-Kohler, the Director of the Navy Nurse Corps, identified two of the five strategic priorities for Navy Nursing for 2006 as "improved management and leadership development for mid-level Nurse Corps officers and a formalized leadership continuum for senior Nurse Corps officers entering executive level positions" (p. 2). Because the Navy Nurse Corps has yet to undergo a research study to identify competencies of the mid-level leader, this study will have a profound impact on mentorship, self-assessment, and professional development, thereby enhancing the future leadership development of the Navy Nurse Corps.

Achieving Quality Benchmarks in Healthcare

The healthcare industry has seen tremendous growth and advancements. To ensure the delivery of quality healthcare, Congressional mandates and government reports have been issued

to establish leadership benchmarks. In response, professional organizations and academic institutions have embarked on numerous research efforts to identify executive competencies and skills needed in health services. The rapid changes in healthcare have precipitated the requisite for healthcare organizations, health management professional organizations, and educational institutions to determine and define executive competencies (Shewchuk et al., 2005).

Through the Omnibus Budget Reconciliation Act, Public Law 101-239 of 1989, Congress mandated annual reports about the status of national healthcare quality. Developed by the Agency for Healthcare Research and Quality (AHRQ), the National Healthcare Quality Report (NHQR) evaluates and measures the nation's performance in terms of quality of care. According to the Institute of Medicine (2001), to achieve quality and improvement within healthcare, the following aims and objectives must be met: safety, effectiveness, patient-centeredness, timeliness, efficiency, and equity. The coordination of administrative efforts to achieving these quality benchmarks is reliant on leadership. Effective leadership in hospitals is positively correlated with increased clinical involvement in quality improvement (Institute of Medicine, 2001).

The Defense Appropriations Act of 1992 required that Military Treatment Facility (MTF) commanders demonstrate professional administrative skills. Consequently, a tri-service task force was assembled to identify the relevant managerial and leadership competencies needed to lead effectively (Finstuen & Mangelsdorff, 2005). In 1996, a joint collaboration among the Army, Navy, and Air Force medical departments identified the executive skills required of MTF commanders throughout the Department of Defense (DoD). With representation from the three services, the Joint Medical Executive Skills Development Group (JMESDG) was comprised of subject matter experts (SME) to assess and prioritize the relevant DoD executive competencies.

The JMESDG identified forty executive competencies and developed a core curriculum for education and training purposes. The efforts of the JMESDG working group identified required skills and, more importantly, they delineated and defined the behaviors and knowledge necessary to show competency in that skill (Schneider, 1999). The joint medical executive skills are recognized and accepted in both the private and military sectors (Finstuen & Mangelsdorff).

Appointed in 1998 to identify strategies to improve the nation's healthcare delivery system, the Committee on the Quality of Healthcare in America of the Institute of Medicine issued two reports, *To Err Is Human: Building a Safer Health System* (Institute of Medicine, 1999) and *Crossing the Quality Chasm: A New Health System for the 21st Century* (Institute of Medicine, 2001). The first report focused specifically on patient safety, while the second report focused on the healthcare delivery system design and made recommendations for its improvement. Both reports dictate the need for essential reforms in the organization and delivery of healthcare. According to the Institute of Medicine (2001), "The need for leadership in healthcare has never been greater" (p. 5).

Defining Nurse Leaders

Nurses comprise about 54% of all healthcare workers (Begun, Tornabeni, & White, 2006). The nursing profession has experienced remarkable changes over the past century. The domain of nursing knowledge has expanded, resulting in a broadening scope of practice. In response to the dynamic healthcare environment, the roles of the charge nurse, nurse manager and nurse executive have evolved. Distinctions between the charge nurse, nurse manager, and nurse executive should be noted and defined. The key difference among the three roles lies in the scope of responsibilities over a particular time period (Kleinman, 2003; Connelly, Yoder, & Miner-Williams, 2003).

Assuming shift responsibility and oversight for the provision of competent and safe nursing care for patients, the charge nurse has direct supervision of the staff of a hospital unit or patient ward for a particular shift. Depending on hospital policy and staffing, the charge nurse is not always a dedicated or permanently assigned position and can rotate among the staff nurses. Typically, the charge nurse has duties associated with staff assignments, bed management, and supervisory control of problems and concerns during the shift. The charge nurse is equivalent to the shift leader (Connelly et al., 2003; Hughes & Kring, 2005).

Nurse managers assume many responsibilities once reserved for the director-level to include the management of daily operations and personnel, team-building, quality assurance, and customer satisfaction (Kleinman, 2003). The nurse manager oversees the clinical delivery of care and business operations of a hospital unit (Begun et al., 2006). "The skills required for nurse managers are determined by the task that they must accomplish and the hospital environment in which they operate" (Lin, Wu, & White, 2005, p. 2). Urden and Rogers (2000) define the nurse manager's accountabilities to include: (a) establishing annual goals, managing the unit's operational budget, (b) monitoring productivity, (c) acquiring necessary resources and supplies, (d) developing and implementing policies and procedures, (e) ensuring adequate staffing and training, (f) assuring regulatory standards are met, (g) promoting continuous education and research, (h) integrating continuous improvement initiatives, and (i) providing appropriate and timely communication across all levels within the organization. For the purpose of this research, the mid-level leader is equivalent to the nurse manager.

Responsible for a broader accountability of patient care services across the healthcare continuum, nurse executives function in collaborative relationships with non-nurse administrators at the highest executive levels of healthcare organizations. Senior nurse

executives are responsible for strategic planning and accountability to board members (Kleinman 2003). The title nurse executive is often used interchangeably with nurse administrator (Scoble & Russell, 2003).

Ethical Statement

Ethical considerations were ensured throughout the research process. Anonymity of participants was safeguarded. Confidentiality was addressed with participants through a separate cover letter prior to each iteration of the Delphi process. Names and unique identifiers were not attached to individual responses. Electronic responses containing names and addresses were not retained. No record of specific individual participation was retained. Participation was voluntary.

Review of the Literature

A review of the literature reveals numerous studies aimed at identifying competencies for the various positions within nursing administration, including the senior nurse executive, the mid-level nurse manager, and the charge nurse. Several methodologies have been employed to identify the competencies, including the Delphi technique. Other methods include a review of the literature by subject matter experts, surveying procedures, and grounded theory methodology.

Civilian Nurse Studies

Delphi Technique

With a sample of 169 women leaders, including seven nurse executives, Carroll (2005) identified the most frequently cited skills and attributes for success as a female executive through application of the Delphi technique. A 63-item questionnaire was used to identify the necessary skills and attributes for women to succeed as leaders in the 21st century. Carroll defined skill as the ability that comes from the knowledge, practice, and aptitude to perform well. Attribute, as

defined by Carroll, is a quality or characteristic that is ascribed to an individual. Six main categories, or domains, were identified: personal integrity, strategic vision/action orientation, team building/communication, management and technical competence, people skills, and personal survival skills/attributes. Carroll asserts that possession of these skills and abilities will enable the nurse leader to create a practice environment that is compliant in safety and management criteria benchmarks set forth by the Institute of Medicine.

Subject Matter Expert

Ehrat (2001) notes that numerous publications have addressed specialized or technical skills required of leaders but posits that general qualitative leadership skills drive career progression. According to Ehrat, these general skills include the ability to: "inspire followers, theorize, master uncertainty, see the whole in parts, inspire confidence, shoulder criticism, view change with anticipation, capitalize on mistakes, and appreciate the accomplishment of others" (p. 38). As a nurse executive approaches higher levels of leadership and management, the greater the importance of these qualitative skills. The "executive nurse must be dexterous in responding to changing circumstances, keeping the organization, in total, in focus" (Ehrat, p. 39).

To determine integral nurse leadership skills, Contino (2003) surveyed the literature to include works from management experts, theories, and leadership beliefs and identified four categories for nurse executive competencies: organizational management, communication, analysis/strategy, and creativity/vision. While written for the critical care nurse manager, the article is useful for all nurses, according to the author. Within the competency categories, Contino identified associated skills and abilities for effective leadership. Skills and abilities associated with organizational management include: "manages time and prioritizes work appropriately," "manages revenue and expenses according to budget," and "manages human

resources through the promotion of individual and teamwork involvement in accordance with policies and procedures " (p. 53). Skills affiliated with the communication include: communicates the unit's goals and objectives to support the hospital/organization mission and vision, provides staff mentorship, and encourages appropriate and effective change. Data/operations analysis and strategic planning skills include: "uses appropriate internal data to evaluate operations," "looks for solutions and new business opportunities both internally and externally," and "plans and evaluates the unit's business plan" (p. 53). Contino highlighted the following creation/visionary skills: generates opportunities for staff, formalizes the unit vision, and offers value for the customers.

Survey Procedures

Developing a 22 item-survey, Kleinman (2003) surveyed 35 nurse managers and 93 nurse executives via a mail survey. Respondents were regional attendees of an American Organization of Nurse Executives conference and were members of the Organization of Nurse Executives of New Jersey. Developed by Kleinman, the survey contained Likert and rank order questions about competencies and education required of nursing management roles. The survey instrument's content validity was established by tasking a small group of experts to review the proposed questions. Responses were grouped within the nurse manager and nurse executive categories. Job titles held by the nurse manager respondents included: clinical coordinator, charge nurse, shift supervisor, program manager, and nurse manager. Directors, vice-presidents, and chief executives dominated the nurse executive group. The nurse-manager group had a lower percentage of respondents with a master's degree. Approximately 32% of the nurse manager respondents held a master's degree while 84% of the nurse executives possessed a master's degree. Group comparisons were made regarding the perception and rank order of the

following competencies: finance, management of information systems, organizational theory, organization behavior, management, human resources, health law, risk management, strategic planning, operations management, marketing, and staffing and scheduling. Nurse managers perceived staffing and scheduling, and management as the most important nurse manager competencies and rated finance and management as the most important nurse executive competences. Similarly, nurse executives rated staffing and scheduling and management as the most important nurse manager competencies. Slightly different than the nurse managers' perceptions, the nurse executives identified strategic planning and finance as higher ranking in importance for the nurse executive role. According to Kleinman, nurse managers had limited knowledge regarding the role of strategic planning in executive medicine. Also, the nurse executive group rated graduate education much higher than the nurse manager for nurse manager performance. One percent of the nurse executive group reported that graduate education was not at all important for nurse manager job performance compared to the 11% of the nurse manager group. Nurse managers preferred the Master of Science in Nursing (MSN) in nursing administration over the dual MSN/Master of Business Administration (MBA) degree as the most desirable graduate degree for nursing administrators. On the other hand, nurse executives preferred the MSN/MBA over the MSN in nursing administration. Kleinman concluded that nurse leadership must synthesize both clinical competency and management competency; the acquisition of a graduate degree is a pre-requisite to achieving both competencies.

Scoble & Russell (2003) conducted a survey among nurse faculty, nurse executives, deans, nurse managers, nurse consultants, and graduate students to forecast a profile of the ideal nurse manager for the year 2020. Attendees of the June 2001 Institute for Nursing Healthcare Leadership (INHL) provided the sample pool for the study. The 43 study participants responded

to questions centered on the ideal preparation for future nurse managers, curriculum content for future nurse managers, desirable professional and managerial experiences for future nurse managers, and key competencies for successful nurse managers in 2020. The majority of respondents regarded the MSN as the ideal preparatory degree. At 26%, the Doctorate (Ph.D.) in Nursing was the second most frequently cited preparatory degree with the MSN/MBA following in frequency rating at 18 percent. Curriculum content cited in order of frequency was business administration, leadership, and financial management. Regarding the desirable professional and managerial experiences for the future nurse manager, clinical specialty practice was the most frequently identified type of experience with managerial experience as the second most frequently cited type. The key competencies for successful leaders were identified by the respondents. From the 130 identified items, 13 competency categories were formed. In order of frequency, the 13 competencies were: leadership behaviors and skills, financial/budgeting, business acumen management skills, communication skills, human resource and labor relations, collaboration and team skills, clinical skills and knowledge, change management, relationship building, critical thinking skills, integrity, informatics (Scoble & Russell).

Grounded Theory Methodology

Through qualitative research, Sherman, Bishop, Eggenberger, & Karden (2007) applied the grounded theory methodology to formulate a nursing leadership model based on the perceptions of nurse managers. Using a sample of nurse managers ($N = 120$), the researchers conducted structured interviews with two groups based on experience level. The experienced group ($n = 98$) had more than 2 years of experience as a nurse manager while the inexperienced nurse manager group ($n = 22$) had less than 2 years of experience within the role. The face-to-face interviews consisted of 26 open-ended questions, developed by the researchers and

reviewed by the Nursing Leadership Institute Advisory Board of the Christine E. Lynn College of Nursing at Florida Atlantic University. The interview questions addressed the respondents' perceived role components, competencies, major challenges, and major stressors of the nurse manager job. Responses from the interviews were coded and analyzed for content using the grounded theory method. As a result, the following competencies surfaced: personal mastery, interpersonal effectiveness, financial management, human resource management, caring, and systems thinking. Based on nursing leadership literature, Sherman et al. developed a nursing leadership competency model based on the six competencies and identified associated behaviors, skills, knowledge, personal characteristics, and attitudes for each competence category. The model was validated through follow-up presentations and discussions with the study participants (Sherman et al.).

Federal/Military Nurse Studies

Because of the complexity of the healthcare system, the major issues facing healthcare administrators and the necessary skills, knowledge, and abilities (SKAs) to handle these issues are dependent on the environment (Schneider, 1999). The civilian and military health systems are unique in organizational culture, corporate structure, and community dynamics. The military's force readiness mission may demand different competency and skills sets.

Collectively, there are limited federal and military studies specifically addressing leadership and core competencies. In response to the Congressional Mandate Military Sector, Defense Appropriations Act of 1992, the U.S. Army-Baylor University Graduate Program in Healthcare Administration, under the leadership of COL Paul Brooke and COL Ron Hudak, initiated a research program to identify professional executive competencies in both civilian and military settings for healthcare administration. Executive competencies were identified in

several healthcare professions in both the Department of Defense (DoD) and the civilian sectors; the studies primarily addressed the assessment needs of administrators, physicians, dentists, and pharmacists. To date, there have been two nurse executive competency studies devoted to the federal sector for the U.S. Army Nurse Corps and the Veterans Health Administration (Duperroir, 1995; Sutto, 2005). Both studies applied the Delphi methodology. While there have been no military studies dedicated to identifying mid-level nurse leadership competencies, the Army Nurse Corps sanctioned a study to identify charge nurse competencies (Connelly, Yoder, & Miner-Williams, 2003).

Senior Nurse Executive

Using a sample of 196 senior Army Nurse Corps officers, Duperroir (1995) forecasted the critical issues and associated skills, knowledge, and abilities (SKAs) needed to face those issues. The distinguishing and relevant competencies, as rank ordered by the Army nurse executives, were leadership, managed care, business management, staffing management, quality management, licensure and education, and ethics. The study concluded the federal nurse executive of the future must not only be a visionary but should also possess specific business and corporate knowledge. Particularly, the nurse executive must be competent in strategic management, multi-disciplinary interaction, and collaboration. Additionally, the nurse executive must be knowledgeable in financial, quantitative, and communication skills. Given the dynamic nature of the military healthcare environment, the blend of these identified competencies and SKAs will assist the military nurse executive to address the critical issues and respond with adeptness (Duperroir).

To obtain a consensus of opinion from federal nurse executives, Sutto (2005) solicited the expert opinion of 146 Veterans Health Administration (VHA) current nurse executives to

identify what they believe are the necessary competencies for success. As a comparison group, a sample of 168 future VHA nurse executives was queried to ascertain and differentiate the relevant competencies and SKAs required to perform at the senior executive level now and in the future. While Sutto's study is the only federal competency study to use a sample of mid-level nurse managers, her study compared the ratings of VHA mid-level nurse managers and senior level nurse executives when tasked to identify the relevant competencies for the senior executive level. Eight competency domains emerged as the dominant priorities for VHA nurse executives: organizational stewardship, interpersonal effectiveness, systems thinking, technical thinking, creative thinking, flexibility/adaptability, customer service, and personal mastery. The most important SKAs associated with these competencies were: ability to allocate resources, conflict resolution skills, ability to see all sides of an issue, ability to lead change, creation of opportunities for staff development, high level of emotional intelligence, ability to project staffing needs and overtime requirement, integrity and ethical conduct, openness to new ideas, ability to develop/maintain work environments attractive to nurses, ability to continuously learn, and ethical decision making ability. Out of those SKAs, ethical decision-making was the most highly rated SKA. This indicates a potential emerging trend not previously emphasized by the executive competency literature (Sutto).

Charge Nurse

Noting a void in the literature addressing charge nurse competencies, Connelly, Yoder, and Miner-Williams (2003) conducted an exploratory, qualitative study to determine what nurses at various levels perceive to be the most critical competencies for the charge nurse in a military medical center. The investigators conducted 42 interviews with 11 staff nurses, 12 charge nurses, 10 head nurses, and nine nursing supervisory personnel assigned to a military medical

center. The study participants had an average of five years of experience as a charge nurse with an average of eight years of nursing experience. Using constant comparative analysis, the researchers applied content analysis to code similar kinds of data within categories and identify 54 specific competencies. Connelly et al. grouped the competencies into the following categories: clinical/technical, critical thinking, organizational, and human relation skills. Competencies were defined by a competency statement followed by a paragraph to describe expectations. In addition, each competency category was further clarified and explained by direct quotes from interviews (Connelly et al.).

Theoretical Framework: Defining Competency

Garman and Johnson (2006) assert the modern concept of competency is attributed to psychologist David McClelland. Defining competencies as outcome-relevant measures of knowledge, skill, abilities, and traits and/or motives, McClelland proposed that competencies offer a beneficial vehicle for aptitude measurement (Garman & Johnson). The concept of competency lacks precision and consistency in meaning. In general, human resources literature describes competencies as skills, knowledge, and attitudes (or aptitudes), with ability as a subcategory of skill (Shewchuk et al., 2005).

A review of the literature reveals no authoritative definition for competency. Garman and Johnson (2006) offered several definitions associated with competency. Competencies are employee characteristics and behaviors perceived to be associated with successful job performance while core competencies are linked with the success of an organization. A competency model is a collection of competencies associated with successful performance. Competency modeling is a systematic process for identifying and articulating competencies at either the individual or organizational level (Garman & Johnson).

The literature offers numerous definitions for competency. For the purpose of this literature review, the following definitions are used. Competency is an element of professional performance reflecting occupational or job experience and qualification. Skills encompass technical expertise. Knowledge is the possession of facts and principles, and abilities address the physical, mental, or legal power (Hudak, Brooke, & Finstuen, 2000). See Figure 1.

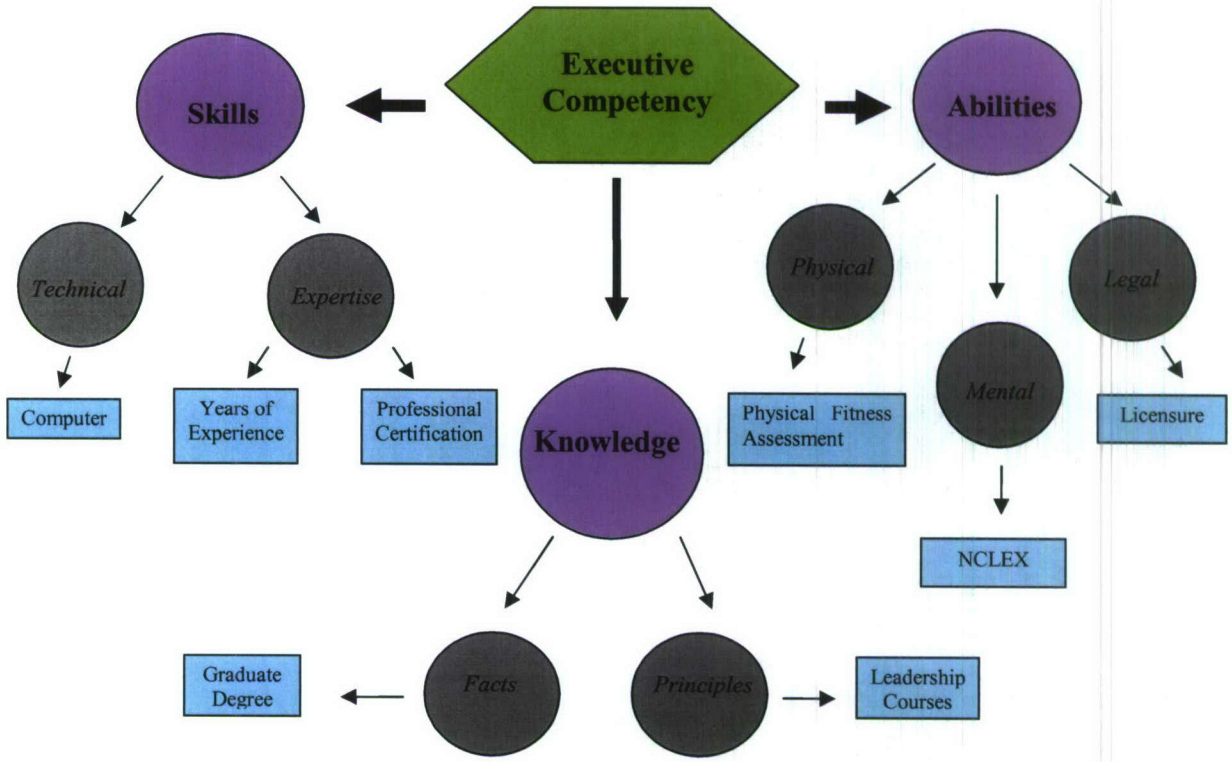

Figure 1. Conceptual Model of Executive Competency

Methodology

Overview of the Delphi Technique

Originally developed by the Research and Development (RAND) Corporation, the Delphi technique has been in use since the late 1960s. The Delphi method is used to determine priorities

and forecast future trends (Dalkey, 1969; Delbecq, Van de Ven, & Gustafson, 1975). "The structure of the technique is intended to allow access to the positive attributes of interacting groups (knowledge from a variety of sources, creative synthesis, etc.) while pre-empting their negative aspects (attributable to social, personal, and political conflicts, etc.)" (Rowe & White, 1999, p. 354). The process involves a series of questionnaires and ends when consensus has been achieved among participants or when sufficient information has been exchanged. By directly extracting knowledge from the current experts rather than conducting a literature search, the Delphi technique allows for a more accurate representation and sharing of scientific or technical information (Delbecq et al.).

Because of the Delphi's qualitative nature, the researcher is the primary link for the collection, distribution, and consolidation of data. A group facilitation technique that seeks to obtain consensus on the experts' opinions through a series of structured questionnaires, the Delphi technique can be used to help recognize problems, set goals and priorities, and identify solutions. Consequently, the Delphi provides a more defined distinction among the positions and differences within the various groups (Delbecq et al., 1975). The Delphi technique can be described as a method to "obtain the most reliable consensus of opinion of a group of experts…by a series of intensive questionnaires interspersed with controlled opinion feedback" (Dalkey & Helmer, 1963, p. 458).

The Delphi is not like other research techniques. "Few methods allow the researcher to use qualitative and quantitative analysis within the same study" (Bowles, 1999, p. 33). The following conditions have been cited as requisites for deeming a study's methodology as Delphi oriented: "anonymity, iteration, controlled feedback, and the statistical aggregation of group response" (Rowe & Wright, 1999, p. 354). A multiple iteration decision-making methodology,

the Delphi technique allows for anonymity in aggregating expert opinion within a specific profession, because the questionnaires are completed individually. This allows individual group members to express his/her own opinions and judge ideas on the basis of merit without the influence of group interaction and domineering politics. Also, the iteration of the questionnaire over a number of phases allows the opportunity for respondents to modify their opinions without fear of losing credibility in the eyes of fellow peers. Prior to the completion of the next subsequent phase, or wave, controlled feedback from each previous questionnaire is provided through summary statistics, usually represented as a mean or median value, to reflect the opinions of their anonymous colleagues' responses. In doing so, feedback captures the true zeitgeist of the overall group. Consequently, the Delphi allows true manifestation of group members' opinions and not just the most dominant or vocal force (Rowe & Wright).

Used across several disciplines to include planning projects for urban development, education, and healthcare, the Delphi method has been recently cited in numerous healthcare executive studies to determine priorities and forecast future trends to identify core competencies. The Army-Baylor University Graduate Program in Health and Business Administration (H&BA) has undertaken an ongoing research program to identify professional executive competencies in both civilian and military settings for the healthcare executive. The research has contributed to the literature in the administrative and clinical specialty fields of medicine, nursing, dentistry and pharmacy. Over the past 12 years, more than 20 executive healthcare competency studies have been conducted using the Delphi technique by Army-Baylor University H&BA graduate faculty and students (Finstuen & Mangelsdorff, 2005).

Experimental Design

Replicating the experimental design from previous healthcare executive Delphi studies conducted by Army-Baylor University H&BA graduate faculty and students (see Figure 2), this study identifies the relevant competencies for future and current Navy Nurse mid-level leaders. In addition, the important skills, knowledge, and abilities (SKAs) required to successfully execute the identified competencies will be identified. While the Delphi process can have multiple iterations, this study will employ two phases identified by Wave I and Wave II.

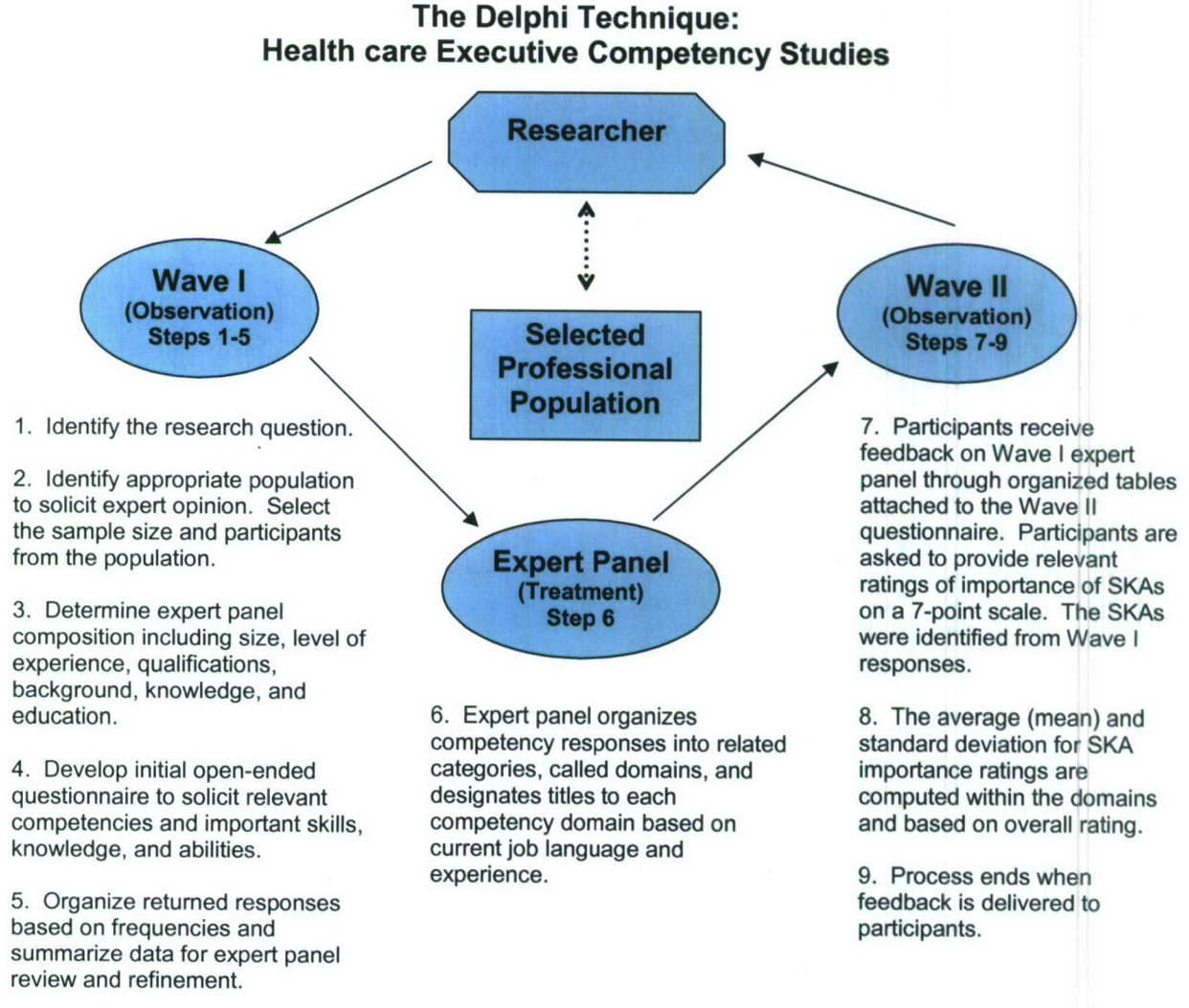

Figure 2. The Delphi Process

Sampling: Selection of Participants

To determine the relevant competencies and important skills, knowledge, and abilities (SKAs) required of mid-level leaders, mid-level active duty and reserve Navy Nurse Corps officers were solicited for their expert opinion. The selection criteria for participating in this study included 0-3, 0-4, and 0-5 Nurse Corps officers in a Department Head or Division Officer position either currently or within the past two years. Because over 2,000 active duty Navy Nurse Corps officers were identified within the lieutenant, lieutenant commander, and commander ranks, a convenience sample of approximately 250 nurses was identified from two medical centers, two hospitals within the continental United States (CONUS), three hospitals outside of the continental United States (OCONUS), and three reserve units.

Electronic Questionnaires: Considerations

Prior to dissemination of the electronic Wave I questionnaire, study participants were sent a personal invitation from CAPT Kim Lyons, Deputy Director of the Navy Nurse Corps, via e-mail to participate in this research endeavor. This helped to establish organizational endorsement and to corroborate professional credibility. Also, the e-mail introduced the researcher and established the priority of the research. A separate e-mail containing the Wave I questionnaire was sent by the researcher within a week of the Deputy Director's invitation (see Appendix A and B for both e-mails).

No names or other identifying information were attached to the returned questionnaires, allowing anonymity. The use of electronic questionnaires for Wave I eliminated both geographical and time barriers, increasing access and timeliness to Navy nurses around the world.

Delphi Wave I: Competencies

Wave I is characterized by solicitation of data through an open-ended questionnaire and the follow-on categorization of that data by an expert panel. Through the use of open-ended questions, respondents generate subcategories and variables themselves (Delbecq et al., 1975). Also, the nature of the Delphi methodology provides a mechanism to obtain data from the field experts which reflects the profession's current and relevant terminology (Dalkey, 1969). For this research, Wave I employed an electronically distributed open-ended questionnaire. Respondents were asked to identify the five most relevant competencies that nurse leaders will encounter in the next five to ten years. They were also asked to identify the requisite skills, knowledge, and abilities that will be needed to execute that competency. Respondents were provided a two-week time frame to complete the electronic questionnaire.

Responses were consolidated into an EXCEL database by the researcher, and a preliminary list of competencies and skills, knowledge, and abilities was generated. The researcher compiled the competency items into groups based on common themes and similar phrasing and calculated frequencies based on relevance. The relevance of a given professional competency is computed as the sum of independent frequencies of response for that particular item. A draft list of the competency categories was presented to the expert panel to facilitate their analysis of the Wave I responses.

Expert Panel

Upon completion of Wave I, an expert panel of Navy Nurse Corps leaders was convened to analyze the collected competency and skills, knowledge, and abilities (SKA) items from the first Delphi Wave. Because this group collectively represents head management decision-makers who will most likely utilize the outcomes of the study, the expert panel represents ideal

Delphi participants (Delbecq et al., 1975). "The expectation of consensus means that Delphi has an intrinsic optimism," because when the Delphi is used for policy, forecasts or recommendation, the respondents are more likely to be predisposed to action after brainstorming. Consequently, there is the potential to promote change (Bowles, 1999, p. 35).

The expert panel was tasked to group the competencies into a set of meaningful categories called competency domains. The expert panel dissected the terminology within the content domains and modified the phrasing of the competencies and SKAs as needed. Through systematic deliberation and discussion, the panel members sorted the competency items into domains and designated headings to each competency domain. To demonstrate relative importance and ranking, the domains were rank ordered by totals of computed frequencies of competencies.

The results from this expert panel were used to form the second questionnaire for the Delphi's second iteration. To construct the Wave II questionnaire, the SKA items of the competencies were merged into 100 SKA item statements using the exact wording from the field and expert panel. Representation of an SKA item was proportional to its relative frequency within each domain.

Delphi Wave II: Skills, Knowledge, and Abilities

Similar to Wave I, respondents received an electronic invitation to participate in the second Delphi iteration. Feedback from Wave I was provided with the Wave II questionnaire (refer to Appendix B). In Wave II, respondents were asked to rank order the associated skills, knowledge, and abilities of the identified relevant competencies. Also, background and demographic information, to include age, gender, military status, education, and experience, were requested. Participation was encouraged even if a Wave I questionnaire was not

completed. Respondents were tasked to assign importance ratings to the 100 SKA items based on a 7-point relative importance rating scale, anchored at the extremes from 1= unimportant and 7= extremely important.

The SKA items were organized in rank order of frequency within its corresponding competency domain, as specified from the Wave I results and expert panel consensus. The importance of a given SKA item is computed as the arithmetic average of relative item ratings of the respondents on the importance scale, and the mean reflects the direction and magnitude of overall judgment of the entire group.

To analyze Wave II data, descriptive statistics were used. Descriptive statistics were conducted on Wave II demographic data and the SKA importance ratings from the respondents' questionnaires. Descriptive summaries, including means and standard deviations, were developed for age, occupational experience, and education data. Descriptive statistics were applied to the content domains identified from Wave I and for all SKA-item importance ratings within the domains.

Methods of Achieving Validity and Reliability

Validity and reliability of measurement were accounted for in this research endeavor. Face validity was present because all content was field generated in current job terms. Content validity was emphasized by the participation of an expert panel comprised of current Navy nurse mid-level leaders. Construct validity was attained through the replication of data-gathering methods, procedures, techniques, and analysis of previously published Delphi technique studies. Because the Delphi technique has been used across several disciplines and has produced consistent and similar results, reliability is assured. To assess the inter-rater reliability of the SKA item ratings within each domain, Cronbach's coefficient alpha was computed. The alpha

coefficient measures the internal consistency of rating responses and represents the stability of the item rating means. Reliability is considered statistically significant when greater than or equal to .70, indicating evidence of consistent and reproducible levels of importance rating agreement (Nunnally, 1978).

Results

Wave I: Analysis of Forecasted Trends

In September 2006, questionnaires were sent electronically to 250 active duty and reserve mid-level Navy Nurse Corps officers in Wave I. With a response rate of 10%, 26 nurses completed the questionnaire. This response rate is considered adequate based on response rates from previous executive skills studies employing the Delphi technique (Hudak, Brook, & Finstuen, 2000). A preliminary list of 122 competencies (64 unique competencies) and 16 content domains was generated and presented to the expert panel for analysis.

Refining the Competency Domains: Content Analysis

A four member panel of mid-level Navy Nurse Corps officers, represented by three commanders and one lieutenant commander, was assembled in October 2006 to analyze the content and significance of the preliminary 16 content domains. Representing 75 years of Naval service and 60 years of Navy nursing experience, all four members were recognized leaders within the field and possess mid-level leadership experience. Collectively, the group earned four advanced professional degrees including graduate degrees in nursing, healthcare administration, and business administration. Their backgrounds provided a robust occupational and experiential perspective.

The expert panel was tasked to sort, combine, reduce, and/or expand the preliminary 16 competency domains. Their analysis resulted in both consolidation and elimination of competency domains and competency items, leaving a total of eight competency domains and 60

unique competency items. The expert panel identified an appropriate title for each competency domain. Rank ordered by frequency (i.e. the percentage of total competencies within each domain), the mid-level competency domains were: management (representing approximately 24% of all competencies), leadership (17%), professional development (15%), personal development (12%), clinical growth and sustainment (12%), deployment readiness and interoperability (9%), communications (8%), and regulatory guidelines (3%). Table 1 displays the frequency of total competencies within each domain.

The expert panel results were used to form the questionnaire for the Delphi's second iteration. The competency domains were rank ordered and listed by frequency of response and corresponding relevance. Representation of an SKA item was proportional to its frequency within each domain. Feedback from Wave I and from the expert panel results was provided with the Wave II questionnaire. For the Wave II questionnaire, the SKA items of the competencies were merged by the researcher into 100 SKA item statements. No attempt was made to modify, rewrite or standardize SKA item statements. Because all SKA items reflected the language of the mid-level sample and expert panel, the Wave II questionnaire was a field-generated consensus-seeking tool. This provided the most accurate representation of the thinking of this group.

Wave II: Analysis of Content

Using the 100 SKA item statements, the same pool of respondents was tasked to rate the relevant competencies and important SKAs by assigning importance ratings to each SKA item based on a 7-point scale, anchored at the extremes from 1= unimportant and 7= extremely important. Thirty-one of the 250 mid-level nurses responded, for a response rate of 12%.

Demographics

Table 2 summarizes the background and experience of the Wave II participants. Seventeen (56.7%) of the Nurse Corps officers who responded were female while 13 (43.3) were male. The mean age of the mid-level respondent group was 43.7 ± 6.3 years. Seventy-seven percent of the respondents were active duty officers and 23% were reservists; collectively, the group has approximately 15 years of military service as a nurse. Of the 31 respondents, 27% were lieutenants, 27% were lieutenant commanders, and 46% were commanders. Over half of the respondents (53.3%) earned an MSN in Nursing while approximately 27% earned graduate degrees in healthcare administration, business administration, or other non-nursing specialty fields. Six (20%) of the respondents were awarded doctoral degrees. Of the respondent group, 17% were members of Sigma Theta Tau International, the honor society of nursing. Over 62% of the mid-level Nurse Corps officers were affiliated with nursing-focused professional organizations, to include general and specialty nursing fields.

Descriptive Statistics

All 100 SKA items were measured by importance ratings on a 7-point bipolar relative rating scale anchored at the extreme from 1 for "unimportant" to 7 for "extremely important." The importance of a given SKA item is computed as the arithmetic average of relative item ratings by respondents on the 7-point bipolar scale. To determine the stability of the item rating means, Cronbach's coefficient alpha was used to assess internal consistency. Coefficient alpha values greater than or equal to .70 indicated evidence of inter-rater reliability (Nunnally, 1978). Coefficients were computed for the combined respondent group, active duty group, and reserve group. Domains, the number of SKA items within each domain, and the alpha coefficient for respondents are shown in Table 3. For the entire respondent group, the coefficients were greater than .87 for all domains with the exception of the regulatory guidelines domain, the smallest

domain. This domain contained three SKA items, and the coefficient alpha was .78. For the active duty group, the range of coefficients was between .77 and .94, while the coefficient range for the reserve group was between .72 and .97. This indicates consistent and reproducible levels of importance rating agreement among active duty and reserve officers, as well as both groups combined.

Collectively, the entire respondent group rated all of the 100 SKA items at 4.90 or higher. Sixty of the 100 SKA items had importance ratings of 6.0 or greater while ninety-eight of the SKA item statements had a group importance rating of 5.0 or greater. Refer to Table 4 for the SKA items rated at 6.50 or greater. The personal development domain accounted for the top three importance ratings. With a mean of 6.90, the most important SKA item was "Critical thinking skills" followed by "Self-motivation and initiative" and "Demonstrates core values and ethical values" in order of descending importance.

Table 5 lists the bottom 16 SKAs for the combined respondent group. The only two SKA items to receive a mean rating below 5.0 by the entire group were "Formal joint military education (Naval War College, Joint Professional Military Education [JPME] Phase I certification), and "Articulate business models for healthcare organizations and fundamental concepts of economics." These SKA items were found in the deployment readiness and interoperability and management domain, respectively. The deployment readiness and interoperability domain accounted for only one of the bottom 16 SKAs. Dominating the list of the bottom rated SKAs, the management domain accounted for eight SKA items.

Table 6 lists the two most highly rated SKA item within each of the eight domains. Six of the eight competency domains were represented within the top 14 SKA items. The two domains not represented among the top 14 SKAs were the deployment readiness and

interoperability and the regulatory guidelines domain. Refer to table 4 for a list of the top 14 SKA items. The highest rated SKA within the deployment readiness and interoperability competency domain was "Ability to prepare staff for deployments;" this SKA item was ranked 29 overall. While ranked 41 in overall relative importance, the SKA item "Understand, articulate, and ensure compliance with regulatory agencies and statutes," was the highest rated SKA within the regulatory guidelines competency domain, the smallest domain with three SKAs. Notably, the mean rating for each top SKA item within its competency domain was 6.2 or greater.

Discussion

Charged with supporting the global war on terror by enhancing deployable medical capability and force medical readiness, today's military healthcare leaders face the leadership crucible of meeting the military mission within an environment of increased operational tempo and dynamic industry expectations. Transformation of the military health system is on going in order to meet the needs of the combatant commander and service member customer group as well as the beneficiary customer group. To be the catalysts for organizational progress and innovation, Navy nurse leaders must constantly evaluate and upgrade their professional skills, knowledge, and abilities to ensure alignment of priorities with the operational and health support mission.

While civilian, federal, and military health systems are distinct from one another by its corporate culture and norms, the practice of nursing is standardized by boards of nursing and the licensure process. Consequently, it is not surprising that, with the exception of the deployment readiness and interoperability domain, the mid-level Navy nurse competencies and SKAs are similar to the nurse manager competencies identified in the literature (Contino, 2003; Kleinman,

2003; Scoble & Russell, 2003; Sherman et al., 2007). Sharing the themes of leadership, management, communication, and clinical competence, the Navy's mid-level nurse competencies are most similar to those identified in Scoble and Russell's Delphi study. Their study dedicated two separate domains for critical thinking skills and integrity. While critical thinking skills and integrity did not merit designation as competency domains for this study, the mid-level respondents assigned significant weight on the relative importance of critical thinking and ethics among the 100 SKA statements. "Critical thinking skills," "demonstrates core values and ethical behavior," "critical thinking and problem solving skills," and "sound-decision making abilities without compromising ethical values," emerged within the top six of the highest rated SKAs. Interestingly, while "critical thinking skills" and "critical thinking and problem solving skills" were assigned to two distinct domains, each rose to the top of the importance ratings. Similarly, "sound-decision making abilities without compromising ethical values" was represented in the clinical growth and sustainment domain and the leadership domain, and both were ranked within the top 15th percentile as the 5th and 11th most important SKAs. The group's ranking of ethics and its relative importance within the upper tier may reflect the challenges of decision-making in the fast-paced, dyanamic military and political environment.

In addition to the influence of military culture and duty, the unprecedented operational tempo calls for an increased diversity and volume of military campaigns and requirements, demanding additional priorities that are uncharacteristic to the civilian healthcare sector. The emergence of two domains focusing on development is most likely attributed to the military's unique officer development environment and intrinsic succession planning. Because lateral entry into the military is atypical, entry-level training aims to acculturate members in addition to educating them, thus fostering a sense of ownership, loyalty, and responsibility to the service.

Consequently, the significance of devoting two separate development domains may be related to the duality of a Navy Nurse Corps officer's role with its obligations to meet both clinical and military standards. With frequent job rotations being inherent to the military, recurring education and training is necessary, and the need for "multifunctionality, or experience in two or more operational or functional areas," is warranted (Klitgaard & Light, p. 258, 2005). This may have contributed to the emphasis on professional and personal development competencies in order to meet the demands of the fluctuating military climate.

Also, the mid-level nurse competencies complement the previously identified senior-level competencies from an earlier Delphi study conducted by this researcher in April 2006. A summary of the results from that competency research identifying the senior-level Navy Nurse Corps competencies is referenced in Appendix C. The senior level Navy nurse executive competencies were: business management, executive leadership, professional development, global awareness and interoperability, communications, and personnel management. Similarly, the senior level competencies include the global awareness and interoperability domain, reflecting the impact of the Navy's operational missions. The emphasis on interoperability has not been as pronounced in previous military and federal Delphi studies. With the increase in operational tempo and continued military presence overseas, joint capability and interoperability among the military services and the Veterans Administration are being promulgated as a necessity to achieve economies of scale, promote resource consolidation, and provide seamless healthcare for active duty service members and veterans. Consequently, the emergence of interoperability as a domain within both Navy nurse leadership studies may be the product of the Military Health System's transformation efforts towards a unified medical command.

The similarities and differences between the mid-level and senior-level nurse competencies reveal how leadership development needs can be refined. Nurse middle management typically involves unit or departmental management of day-to-day operations. This task-oriented focus may have indirectly lowered the response rate and impacted importance ratings. Within this functional capacity, it is not surprising to find the mid-level respondents' placed higher emphasis on SKAs related to direct patient care, such as "ability to teach and educate novice nurses and corpsmen," "ability to communicate with professionals from multiple disciplines to do what is best for the patient," and "current skills to provide professional nursing care to patients and their families in area of expertise." Moreover, importance ratings were lowest among the management SKAs related to strategic planning and business to include "ability to perform metric analysis and benchmarking techniques," "ability to formalize a strategic business plan," and "articulate business models for healthcare organizations and fundamental concepts of economics." The variations in theme and content of the competency domains from mid-level to executive leadership are indicative of the increasing scope of responsibilities and transition to the strategic levels of organizational and transformational leadership. "The more senior the position is, the more important it is for an incumbent to understand how his or her activity relates to the overall objectives of its larger organization and how the organization relates to its environment" (Klitgaard & Light, 2005, p. 258). Therefore, the results from this study provide the opportunity to improve the fluidity within the leadership continuum and bridge the gap between mid-level leadership and senior executive leadership.

Unique from its other Navy Medicine counterparts with its higher representation of junior-ranking officers, the Nurse Corps officers typically accept his/her commission and begins duty as an ensign because of different professional degree requirements. Most Medical and

Dental Corps officers enter service as lieutenants, while most Medical Service Corps officers begin their service obligation as lieutenants junior grade or above. Thus, entry-level experience and leadership development vary among each corps within Navy Medicine. While a core set of competencies has been identified for all medical leaders in the Department of Defense through the Joint Medical Executive Skills Program (JMESP), the opportunity exists to further augment leadership development for Navy Nurse Corps officers at earlier career points and to better establish a formalized learning continuum or model, similar to the study by Sherman et al. (2007). Some of the identified SKAs in this research are better developed through real-world experience and exposure rather than classroom environment alone, such as "critical thinking skills," "able to maintain professionalism in all situations," and "creative in working with available resources." There is the potential to introduce and incorporate the value of business and strategic management concepts into mid-level leadership development, especially with the on-going pressure for cost containment and efficiency within the MHS. This may promote earlier military acculturation of jointness, interoperability, and cost-efficiency. Ultimately, the ideal outcome is the enhancement and improvement of overall Navy Nurse Corps leadership to improve readiness, retention, and morale.

Limitations

For both Delphi waves of this study, the response rates were between 10-12%. While the convenience sample for this research included nurses from all types of facilities, the study limited participation to Navy nurses with a minimum of two years of current or recent mid-level supervisory experience. Obtaining input from nurses with less than two years of experience may provide valuable insight, considering the military environment has frequent shifts of responsibilities and eventually most nurses promoted beyond the lieutenant rank will assume

mid-level leadership responsibilities. However, the exclusion of this group was intentional because these individuals have not yet been exposed to the requirements of middle management. The possibility exists that a higher response rate would yield slightly different results.

According to a Health Resources and Services Administration study, men represent 6.7% of the 2.4 million employed registered nurses in the U.S. in 2004 (Steiger, Bausch, Johnson, & Peterson, 2006). The Navy Nurse Corps is comprised of 63% females and 37% males. The gender demographics for this study are similar to the Navy Nurse Corps but not necessarily representative of the U.S. civilian population.

Conclusions

By identifying the relevant competencies and important skills, knowledge, and abilities for mid-level leadership, this research helps to achieve the Navy Nurse Corps' strategic goal of "improved management and leadership development for mid-level Nurse Corps officers" (Bruzek-Kohler, 2006). Aggregated by expert opinion through the Delphi technique, the relevant competencies for current and future mid-level Navy Nurse Corps officer are, in order of descending relevance: management, leadership, professional development, personal development, clinical growth and sustainment, deployment readiness and interoperability, communications, and regulatory guidelines. Accordingly, the three highest rated skills, knowledge, and abilities (SKAs) emerged from the personal development domain with the emphasis on critical thinking, initiative, and ethics. Because the rankings determined the relevance of the competencies and importance of the SKAs, the results reflect the mid-level group's leadership priorities, thus providing an additional means to augment the personal and professional development of the Navy Nurse Corps mid-level leadership cadre.

Because of its intrinsic nature, the Delphi methodology ensures the wording reflects the culture and priorities of the Navy Nurse Corps. The current operational environment and force reshaping efforts have changed the environment of the Navy Nurse Corps. Consequently, the demand for clinical expertise and strong situational leadership is even greater. Given the challenge of meeting the Military Health System's (MHS) mission of enhancing the Department of Defense and the nation's security by providing health support for the full range of military operations and sustaining the health of all those entrusted to their care, these field-generated mid-level competencies indicate alignment with health optimization, patient-centered care and a broadening view of readiness and medical deployability.

Recommendations

With the field-generated content accumulated from this study, the results could potentially have a profound impact on the future development of the Navy Nurse Corps' mid-level leadership cadre. The results can be readily integrated into the training and professional development of future mid-level nurse leaders and managers through the establishment of appropriate policies and continuing education pathways for clinical, operational, and general military officer leadership development. Also, because the results provide a means to assess adequacy and relevance of current education and training curriculums, education and training courses may be modified to more fully address the requisite skills, knowledge, and abilities required to achieve the relevant competencies. With commitment from nurse leadership of all levels, the potential exists to build a formalized leadership continuum or professional competency ladder, establishing the requisite competencies to progress from the mid-level nurse manger to the senior nurse executive level within Navy nursing. In addition to providing the

framework to guide and improve current policies and training, a formalized Navy Nurse Corps leadership continuum can provide mentorship and self-assessment benchmarks.

Furthermore, as the Military Health System continues to assimilate a joint, interoperable, and interdependent culture and values towards a unified medical command, the need for additional research into the differing perceptions of all junior mid-level nurses within the federal sector, to include the Veterans Health Administration, is warranted. By identifying common values and priorities within the federal sector of nursing, a competency model or leadership continuum can be established for federal nurse leadership, thus encouraging cohesiveness and unity within the federal climate. Most of all, this research supports the MHS human capital strategy of developing its most valuable asset—its people.

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Table 1
Frequency Count of Individual Competencies, Domain Totals, and Unique Competencies from Wave 1 and Expert Panel

Mid-Level Nurse Leader Competencies within Content Domains				123 Total		60 Unique	
	n		n	n	%	N	%
Management				30	24.39	15	25.00
Business Management	10	Strategic planning	1				
Business Skills	4	Continuous process improvement (Six Sigma, Baldridge award, ISO)	1				
Financial analysis/fiscal management	4	Change management and flexibility	1				
Analytical ability	1	Time management	1				
Critical thinking	1	Customer service	1				
Evidence-based practice research	1	Knowledge of the healthcare environment	1				
Navy medicine business practices	1	Management of human resources	1				
Organizational leadership/Financial management: demonstrate an understanding of the financial and technological issues that impact Navy medicine now and in the future	1						
Leadership				21	17.07	8	13.33
Leadership (general)	7	Leadership role	1				
Leadership development	4	Global thinking	1				
Organization	4	Principles of ethics	1				
Collaboration	2	Facilitator	1				
Professional Development				18	14.63	4	6.67
Staff development:							
Mentorship							
Staff educator		Continuing education/life-long					
Counseling/coaching	8	learning	3				
Individual development plan	4	Advanced degree/certifications	3				

	n		n	n	%	N	%
Personal Development				15	12.20	9	15.00
Computer/Technical tools: Communication and computer skills Business-related computer skills Competent and trained in the use of various computing programs, i.e. Excel, PowerPoint, Publisher	7	Principles of ethics	1				
Adaptability	1	Emotional intelligence	1				
Creativity	1	Team player	1				
Drive and determination	1	Critical thinking	1				
Independent self-starter	1						
Clinical Growth and Sustainment				15	12.20	6	10.00
Expertise/Subject matter expert	6	Clinical nursing skills	1				
Competent expert	5	Ethical decision making	1				
Advanced practice	1	Evidence-based practice	1				
Deployment Readiness and Interoperability				11	8.94	9	15.00
Operational readiness (Wartime)	2	Knowledge of deployment platforms	1				
Joint operations	2	National, Department of Defense (DoD, all branches), and Navy mission	1				
Joint service interoperability	1	Global picture	1				
Understanding of pre- and post-deployment resources	1	Core Naval officer competencies (Know organization, i.e. DoD not just Navy)	1				
Joint environment awareness	1						
Communications				10	8.13	6	10.00
Interpersonal communication skills	3	Written skills		1			
Navy writing	2	Navy Knowledge On-Line (NKO)		1			
Presentation	2	Conflict resolution		1			

	n		n	n	%	N	%
Regulatory Guidelines				3	2.44	3	5.00
Overall knowledge of pertinent regulatory statutes: JCAHO, Institute for Healthcare Improvement (IHI), Agency for Healthcare Research and Quality (AHRQ), patient safety initiatives	1	Civilian manpower and HR regulations	1				
Legal (UCMJ, reserve regulations)	1						

Table 2

Summary of Demographic Data for All Respondents, Wave II

Variable	Mid-Level Nurse Corps Officers (n=31) [a] Mean ± SD	No. (%)
Age, years	43.7 ± 6.3	-
Experience		
Navy/military nurse	14.9 ± 6.7	-
Sex		
Female	-	17 (56.7)
Male	-	13 (43.3)
Status		
Active duty	-	23 (76.7)
Reserve	-	8 (23.3)
Rank		
LT (O-3)	-	8 (26.7)
LCDR (O-4)	-	8 (26.7)
CDR (O-5)	-	14 (46.6)
Degree Obtained [b]		
Masters		
MSN	-	16 (53.3)
MHA/MBA	-	2 (6.7)
Other	-	6 (20.0)
Doctorates		
Nursing	-	6 (20.0)
Professional Affiliation [b]		
Sigma Theta Tau	-	5 (17.2)
American Nurses Association		5 (17.2)
Other	-	18 (62.1)

SD = standard deviation

[a] One respondent did not complete all demographic questions

[b] Categories are not mutually exclusive

Table 3

Skills, Knowledge, and Abilities (SKA) Item Rating Reliability Coefficients

Domain	No. of SKA Items Rated	Cronbach's α		
		Active Duty Respondents (n=23)	Reserve Duty Respondents (n=8)	All Respondents (n=31)
Management	24	.94	.97	.95
Leadership	17	.94	.79	.92
Professional Development	15	.94	.72	.92
Personal Development	12	.85	.92	.87
Clinical Growth and Sustainment	12	.94	.85	.92
Deployment Readiness and Interoperability	9	.90	.85	.91
Communications	8	.92	.92	.91
Regulatory Guidelines	3	.77	.84	.78
All Domains	100			

Note. Responses were recorded on a 7-point rating scale, with 1 = unimportant to 7= extremely important

Table 4

Wave II Top 14 SKAs According to Ratings (6.50 and greater) by Mid-Level Nurses

Rank	Domain	SKA Item Statement	Mean ± SD[a]
1	Personal Development	Critical thinking skills	6.90 ± 0.30
2	Personal Development	Self-motivation and initiative	6.74 ± 0.63
3	Personal Development	Demonstrates core values and ethical behavior	6.71 ± 0.59
4	Management	Critical thinking and problem solving skills	6.71 ± 0.59
5	Leadership	Able to motivate and inspire staff and colleagues to accomplish mission/tasks even in difficult work environments	6.68 ± 0.54
6	Clinical Growth and Sustainment	Sound-decision making abilities without compromising ethical values	6.68 ± 0.65
7	Management	Able to maintain professionalism in all situations	6.65 ± 0.61
8	Professional Development	Ability to teach and educate novice nurses and corpsmen	6.65 ± 0.84
9	Leadership	Ability to mentor junior nurses, provide advice on career/promotion, and teach nurses how to become managers	6.61 ± 0.72
10	Communications	Ability to communicate with professionals from multiple disciplines to do what is best for the patient	6.58 ± 0.67
11	Leadership	Sound decision-making abilities without compromising your ethical values	6.55 ± 0.85
12	Clinical Growth and Sustainment	Current skills to provide professional nursing care to patients and their families in area of expertise	6.55 ± 0.85
13	Clinical Growth and Sustainment	Knowledge of current nursing practices	6.52 ± 0.89
14	Professional Development	Foster growth and development of junior sailors	6.52 ± 0.93

SKA = skills, knowledge, and abilities

[a] Seven=point relative importance scale, where 1 = extremely unimportant and 7 = extremely important

Table 5.

Wave II Bottom 16 SKAs for Mid-Level Nurse Leaders According to Ratings (less than 5.60) by Mid-Level Nurses

Rank	Domain	SKA Item Statement	Mean ± SD[a]
85	Leadership	Knowledge and experience from facilitator training, team building	5.55 ± 1.12
86	Personal Development	Able to present visual display of quantitative information	5.58 ± 1.36
87	Management	Knowledge of current continuous process improvement methodologies and metrics, such as Lean Six Sigma	5.52 ± 1.23
88	Personal Development	Knowledge of how to use Armed Forces Health Longitudinal Technology Application (AHLTA) program to help support staff	5.48 ± 1.31
89	Leadership	Politically astute	5.48 ± 1.34
90	Personal Development	Skills with Excel database for statistics, spreadsheets, and information	5.45 ± 1.34
91	Clinical Growth and Sustainment	Ability to care for patients of all ages from cradle to grave	5.32 ± 1.35
92	Management	Able to apply concept and principles from current business literature	5.29 ± 1.27
93	Management	Ability to formalize a strategic business plan	5.26 ± 1.38
94	Management	Ability to perform metric analysis and benchmarking techniques	5.23 ± 1.38
95	Personal Development	Advanced skills with PowerPoint	5.23 ± 1.54
96	Management	Understanding of Defense Medical Logistics Support System (DMLSS) and equipment management process	5.19 ± 1.49
97	Management	Knowledge of TRICARE reimbursement	5.13± 1.28
98	Management	Knowledge of change management theories	5.03±1.58
99	Deployment Readiness and Interoperabilty	Formal joint military education (Naval War College, Joint Professional Military Education [JPME] Phase I Certification)	4.97±1.58
100	Management	Articulate business models for healthcare organizations and fundamental concepts of economics	4.90 ± 1.47

SKA = skills, knowledge, and abilities

[a] Seven=point relative importance scale, where 1 = extremely unimportant and 7 = extremely important

Table 6

Two Most Important SKA Item Averages by Domain for Mid-Level Nurse Leaders

Competency Domain	SKA Item Statement	Mean ± SD[a]
Management	Critical thinking and problem solving skills	6.71 ± 0.59
	Able to maintain professionalism in all situations	6.65 ± 0.61
Leadership	Able to motivate and inspire staff and colleagues to accomplish mission/tasks even in difficult work environments	6.68 ± 0.54
	Ability to mentor junior nurses, provide advice on career/promotion, and teach nurses how to become mangers	6.61 ± 0.72
Professional Development	Ability to teach and educate novice nurses and corpsmen	6.65 ± 0.84
	Foster growth and development of junior sailors	6.52 ± 0.93
Personal Development	Critical thinking skills	6.90 ± 0.30
	Self-motivation and initiative	6.74 ± 0.63
Clinical Growth and Sustainment	Sound-decision making abilities without compromising ethical values	6.68 ± 0.65
	Current skills to provide professional nursing care to patients and their families in area of expertise	6.55 ± 0.85
Deployment Readiness and Interoperability	Ability to prepare staff for deployments	6.32 ± 0.94
	Ability to interact and work with our sister services in their environments	6.26 ± 0.77
Communications	Ability to communicate with professionals from multiple disciplines to do what is best for the patient	6.58 ± 0.67
	Able to deal with conflict or at least willingness to resolve conflict	6.39 ± 0.84
Regulatory Guidelines	Understand, articulate, and ensure compliance with regulatory agencies and statutes	6.19 ± 0.91
	Knowledge of military regulations for active duty and reserve	6.16 ± 0.86

AppendixA: Wave I Invitation and Instructions for Participation

-----Original Message-----
From: Lyons, Marcia K. CAPT BUMED [mailto:mklyons@US.MED.NAVY.MIL]
Sent: Monday, September 11, 2006 1:53 PM
To: Swisshelm, Daniel M. (LCDR); Winborne, Renee F CIV NNMC; Buchanan, Bradley D LCDR; Pendrick, Paula A CAPT; Armbruster, Collette J., CDR GTMO; Perdue, Mary K. CAPT; Rothacker III, John A. CAPT
Cc: Palarca, Christine, LT, USN, OASD(HA)/TMA; Johnson, Scott A.CDR BUMED; Chalker, Newton J LCDR BUMED
Subject: Mid Level Leadership Research Project

Dear Nurse Corps Officers,

As current leaders in Navy Medicine, I would like to invite you to participate in a research project aimed at rating mid-level nurse leader competencies. This study will identify the importance of the specific competencies required by mid-level leaders and provide a guide for the future modification of educational programs to develop current and future Navy nurse leaders. The selection criteria for participating in this study include 0-3, 0-4, 0-5 Nurse Corps officers in a Department Head or Division Officer position either currently or within the past 2 years. Once the study is completed, the research results will be shared with you.

The study, entitled "Executive Skills: Navy Nurse Competencies," seeks to identify the relevant competencies and important skills, knowledge, and abilities required for Navy nurse leaders. The study is conducted in collaboration with researchers from the U.S. Army-Baylor University Graduate Program in Healthcare Administration, Senior/Mid-Level Nurses, and Navy Nurse Researchers. The study will utilize a web-based Delphi Technique as the data collection methodology. I encourage you to take a few minutes of your time to complete the Delphi questionnaire. Your participation is voluntary.

In the near future, you will receive a follow-on e-mail with the study fact sheet, questionnaire, and demographic data form. Your responses will be confidential. At no time will individual responses be identified. The questionnaire will take approximately 30 minutes of your time.

Please direct questions regarding this study to the Principal Investigator, LT Christine Palarca via email at Christine.Palarca@trow.tma.osd.mil. Your support is vital and I appreciate you assistance in this research project.
r/CAPT Lyons

CAPT Kim Lyons, NC, USN

Assistant Deputy Chief of Staff, Personnel (M1C)

Deputy Director, Navy Nurse Corps (M1C5)

2300 E Street NW

Washington, DC 20372-5300

(202) 762-3356

-----Original Message-----
From: Palarca, Christine, LT, USN, OASD(HA)/TMA
Sent: Monday, September 11, 2006 2:51 PM
To: Swisshelm, Daniel M. (LCDR); Winborne, Renee F CIV NNMC; Buchanan, Bradley D LCDR; Pendrick, Paula A CAPT; Armbruster, Collette J., CDR GTMO; Perdue, Mary K. CAPT; Rothacker III, John A. CAPT
Cc: Johnson, Scott A.CDR BUMED; Chalker, Newton J LCDR BUMED
Subject: RE: Mid Level Leadership Research Project

Dear Nurse Corps Officers,
Please forward the endorsement letter from the Deputy Director, Navy Nurse Corps along with the attached research study questionnaire to your mid-level leadership group e-mail accounts and/or to the LTs, LCDRs, CDRs in your command via the DNS directorate e-mail list. A cover letter explaining the details of the study is provided along with the questionnaire. The questionnaire can be returned via e-mail, fax, or postal mail with a 29 Sept deadline. If you have any questions, please do not hesitate to contact me via e-mail or phone.

Thank you in advance for your cooperation and participation in this study. The results will be shared with you and used to enhance our current education and training programs for our future Navy Nurse Corps leaders.

V/R,
LT Christine Palarca, US Navy
MHA Resident
Army-Baylor University Graduate Program in Health and Business Administration

TRICARE Regional Office - West
401 West A Street, Suite 2100
San Diego, CA 92101-7908
Comm: (619) 236-5348
Fax: (619) 231-4247

Developing Mid-Level Leadership: Core Competencies Identification

Background Information

The complexity of the Navy's healthcare system coupled with the unpredictable wartime environment poses great demands on the Navy's healthcare professionals, including Navy nurses. To meet these challenges, Navy Nurse Corps officers must constantly develop new skills to ensure personal and organizational success in the future.

Objectives

This leadership project is being conducted in conjunction with the U.S. Army-Baylor University Graduate Program in Healthcare Administration to identify major issues that future nurse executives will face over the next five to ten years. This research will further describe the skill, knowledge, and ability requirements that current experts expect will be needed to be successful in a highly technical and rapidly changing healthcare and nursing environment.

Expert Respondents

The selection criteria for this study include Navy Nurse Corps officers, active duty and reserve, holding the rank of O-3, O-4, or O-5 in a Senior Nurse Executive, OIC, department head, or division officer position either currently or within the past 2 years. Collectively, this group represents over 2000 nurse leaders with significant management and leadership experience as well as a demonstrated record of excellence in a variety of practice settings.

How long will it take?

It will take approximately 30 minutes of total time, over a three month period to respond to two separate questionnaires. The first questionnaire will request short answers to a specific question that is posed. The second questionnaire (to be sent at a later date) will require respondents to consider a group of questions using numeric ratings. At each round, responses should be returned to the investigator within a week in order to remain on schedule.

Methods

This is not a survey! This study employs the Delphi Method to collect and describe the opinions of expert respondents. The RAND Corporation initially developed it as a means of effectively and efficiently gaining expert group judgments. Respondents are not required to travel or complete any advanced reading. The Delphi method has three hallmarks:

1. Expert opinion is gained through the use of an anonymous questionnaire;
2. Interaction among respondents is accomplished at each round by synthesizing all responses, informing each respondent of the group's current position, and redistributing the questionnaire results for further consideration; and
3. The group generally achieves a consensus after a few rounds.

Individual Utility of Results

Through their participation, experts will play a vital role in the determination of new directions for nurse management competencies. Experts should find it an interesting forecast into the future and an opportunity to respond to the collective ideas of the panel. At study completion, each participant will receive a summary report of the results.

How will the results be used?

Compiled results from this study may be used in several ways:

1. Knowledge of these results will better prepare current mid-level nurse leaders and managers in their task of mentoring future nurse leaders;
2. Future nurse leaders may identify their personal strength and weakness areas in order to plan their own self-improvement;
3. Education and training courses can be modified to more fully address the requisite skills, knowledge, and abilities required by future nurse managers;
4. Using these findings, comparisons can be made between nurse management skills and those results reported for other professions; and
5. The results will be published in a prestigious professional journal to add to the stream of research in this area.

IDENTIFICATION OF RELEVANT COMPETENCIES AND IMPORTANT SKILLS, ABILITIES, AND KNOWLEDGE

First – Specifically, list what you personally consider the TOP FIVE relevant competencies that nurse leaders will need in the next five to ten years. Define each competency as clearly as possible, making sure to avoid generalized or categorical terms.

Second – For each identified competency, list what you consider to be the important and necessary skills, knowledge, or abilities that will be required to achieve and/or execute the identified competency.

Finally – Please return the completed form by 29 Sept 2006. Return your responses via electronic mail, mail, or fax (please select only one option to avoid duplication of results:
E-mail: Christine.palarca@tro.tma.osd.mil

Mail: LT Christine Palarca, Baylor resident
TRICARE Regional Office-West
401 West A Street, Suite 2100
San Diego, CA 92101

Fax: 619-231-4231

Your responses will be confidential. At no time will individual responses be identified. If you have questions, please contact the principal investigator, ***LT Christine Palarca****, at* ***(619) 236-5348****.*

Mid-Level Leadership Competency	Skills, Knowledge, or Abilities (SKAs)
Example: Professional development	Communication skills, solid nursing/clinical experience, ability to teach novice nurses
Example: Business management	Financial management skills, budget analysis skills, knowledge of forecasting
Competency 1:	SKA1:
Competency 2:	SKA2:
Competency 3:	SKA3:
Competency 4:	SKA4:
Competency 5:	SKA5:

Please complete the following demographic information survey.

DEMOGRAPHIC INFORMATION

Your responses will be confidential. At no time will individual responses be identified. For questions 1-4, please use the drop down menu. Manually click on the shaded box after each question to reveal the menu.

1. Rank

2. Military status:

3. Gender:

For the remaining questions, please fill in the blank unless otherwise noted.

4. Age:

5. Number of years of Navy nursing service (both active duty and reserve time):

6. Number of years of clinical nursing experience:

7. Total number of years of leadership experience (holding the Senior Nurse Executive, OIC, department head, or division officer position):

8. Most recent leadership position/title:

9. Current Practice Setting:

10. Current Job title/position:

12. Is your current job primarily management, clinical, or education?:

13. Current number of civilian nurses supervised:

14. Current number of military officers/professionals supervised:

15. If you have operational history, list the number of deployments:

16. Most recent deployment job position/title:

17. Most recent deployment location:

18. Unit Committee and Collateral Duty Involvement (check all that apply):

☐Schedule ☐Safety ☐Quality ☐Education

☐Other, please list:

19. Command Collateral Duties (check all that apply):
☐CMEO ☐JCAHO ☐Watch (NOD, OOD, CDO) ☐P&T
☐Other, please list:

20. Most recent education/degree earned and completed:
If you selected "other," please enter the type of education:

21. Please list any professional memberships:

Thank you for your time. You will receive the second follow-on questionnaire within the next three months. Your responses will be used to enhance the professional development of Navy Nurse Corps officers.

Appendix B: Wave II Invitation and Instructions for Participation

-----Original Message-----
From: Palarca, Christine, LT, USN, OASD(HA)/TMA
Sent: Monday, November 06, 2006 12:29 PM
To: 'Swisshelm, Daniel M. (LCDR)'; 'Winborne, Renee F CIV NNMC'; 'Buchanan, Bradley D LCDR'; 'Pendrick, Paula A CAPT'; 'Armbruster, Collette J., CDR GTMO'; 'Perdue, Mary K. CAPT'; 'Rothacker III, John A. CAPT'
Cc: 'Johnson, Scott A.CDR BUMED'
Subject: Mid Level Leadership Project PART 2

Dear Nurse Corps Officers,
This is the second phase of the BUMED study to identify the core competencies for the mid-level leader. The results from the first phase, Wave I, are included with the attached instructions. The follow-on questionnaire, Wave II, is attached separately. This is the final phase of this project. Participation in this phase is highly encouraged even if respondents did not compete the first questionnaire.

Similar to the first phase, please forward the attached instructions and questionnaire to your mid-level leadership group e-mail accounts and/or to the LTs, LCDRs, CDRs in your command via the DNS directorate e-mail list. The questionnaire can be returned via e-mail, fax, or postal mail with a 04 Dec 2006 deadline. If you have any questions, please do not hesitate to contact me via e-mail or phone (619) 236-5348.

Your assistance and support is GREATLY appreciated! The results will be shared with you upon completion of the study.

Note: The selection criteria for participating in this study include 0-3, 0-4, 0-5 Nurse Corps officers in a Department Head or Division Officer position either currently or within the past 2 years.

V/R,
LT Christine Palarca, US Navy
MHA Resident
Army-Baylor University Graduate Program in Health and Business Administration

TRICARE Regional Office - West
401 West A Street, Suite 2100
San Diego, CA 92101-7908
Comm: (619) 236-5348
Fax: (619) 231-4247

06 November 2006

MEMORANDUM FOR MID-LEVEL NAVY NURSE CORPS LEADERS

SUBJECT: Mid-Level Nurse Leadership Competencies – Initiation of Wave II

Because of your position as a leader in Navy nursing, you have been invited as a participant in an exciting study. This project seeks to identify the relevant executive competencies and describe the important, associated skills, knowledge, and abilities (SKAs) facing mid-level nurse leaders over the next five years.

This study uses the Delphi Method. The Delphi Method is an effective means of assessing the judgments of a group of experts. In September, Wave I of the study was sent out to approximately 25 mid-level Navy Nurse leaders, both active duty and reserve. The response rate was 10 percent. An expert panel of mid-level Navy Nurse leaders then analyzed and categorized like kinds of key items together into groups. These groups are called 'domains' in this study and the expert panel assigned a name to each domain that best summarizes the competency items within that domain. Wave II of the study gives respondents the opportunity to rate the identified important skill, knowledge, and ability (SKA) items that were generated from Wave I. In addition, you are asked to rate the SKA items identified from the senior-level nurse executive study, and your responses will be used to compare the mid-level and senior level groups, adding more depth and quality to the development of future Navy Nurse Corps leaders. Please be assured that confidentiality of your responses will be maintained.

The tables on the next three pages (pg. 2-3) summarize the responses that were provided in Wave I after the expert panel analyzed and categorized all of the responses. You should find this information interesting and insightful since all responses are generated from fellow Navy nurse leaders in the field – just like you. Please feel free to print the tables and refer to them as needed in your daily practice.

Please take the time to complete the following questionnaire. *You may participate in this phase of the study even if you did not respond during Wave I.* Although this instrument may appear longer than the Wave I questionnaire, it should take significantly less time to complete because of the standardized format. Please return the questionnaire by 15 December 2006. The completed form can be returned via e-mail, mail, or fax. Please select only one option to avoid duplication of results.

e-mail: Christine.palarca@trow.tma.osd.mil
Mailing address:
LT Christine Palarca, Army-Baylor MHA resident
TRICARE Regional Office - West
401 West "A" St, Suite 200
San Diego, CA 92101
Fax: 619-231-4231

Please contact me at (619) 236-5348 if you have any questions. You will receive a summary of the findings at the completion of this study.

Part 1 – Domain Overview**

Nurse Leader Competency Domain	Total Competencies	Unique Domain Items
I. Management	30	15
II. Leadership	21	8
III. Professional Development	18	4
IV. Personal Development	15	9
V. Clinical Growth and Sustainment	15	6
VI. Deployment Readiness and Interoperability	11	9
VII. Communications	10	6
VIII. Regulatory Guidelines	3	3
Totals	123	60

**Feedback to the respondents

Part 2 – Detailed View of Competency Domain

I. Management (15 Unique Items)			
Business management	10	Strategic planning	1
Business skills	4	Continuous process improvement (Six Sigma, Baldridge award, ISO)	1
Financial analysis/fiscal management	4	Change management and flexibility	1
Analytical ability	1	Time management	1
Critical thinking	1	Customer service	1
Evidence-based practice research	1	Knowledge of the healthcare environment	1
Navy medicine business practices	1	Management of human resources	1
Organizational leadership/Financial management: demonstrate an understanding of the financial and technological issues that impact Navy medicine now and in the future	1		

II. Leadership (8 Unique Items)			
Leadership (general)	7	Leadership role	1
Leadership development	4	Global thinking	1
Organization	4	Principles of ethics	1
Collaboration	2	Facilitator	1

III. Professional Development (4 Unique Items)			
Staff development	8	Individual development plan	4
Mentorship		Continuing education/life-long learning	3
Staff educator		Advanced degree/certifications	3
Counseling/coaching			

You may keep this page.

Part 2 – Detailed View of Competency Domains (cont'd)

IV. Personal Development (9 Unique Items)			
Computer/Technical Tools:	7	Creativity	1
Communication and computer skills		Drive and determination	1
Business-related computer skills		Independent self-starter	1
Competent and trained in the use of various computing programs, i.e. Excel, PowerPoint, Publisher		Principles of ethics	1
Technical knowledge		Emotional intelligence	1
Visual display of quantitative information		Team player	1
Adaptability	1	Critical thinking	1

V. Clinical Growth and Sustainment (6 Unique Items)			
Expertise/Subject matter expert	6	Clinical nursing skills	1
Competent expert	5	Ethical decision making	1
Advanced practice	1	Evidence-based practice	1

VI. Deployment Readiness and Interoperability (9 Unique Items)			
Operational readiness (Wartime)	2	Knowledge of deployment platforms	1
Joint operations	2	National, Department of Defense (DoD, all branches), and Navy mission	1
Joint service interoperability	1	Global picture	1
Understanding of pre- and post-deployment resources	1	Core Naval officer competencies (Know organization, i.e. DoD not just Navy)	1
Joint environment awareness	1		

VII. Communications (6 Unique Items)			
Interpersonal communication skills	3	Written skills	1
Navy writing	2	Navy Knowledge On-Line (NKO)	1
Presentation	2	Conflict resolution	1

VIII. Regulatory Guidelines (3 Unique Items)			
Overall knowledge of pertinent regulatory statutes: JCAHO, Institute for Healthcare Improvement (IHI), Agency for Healthcare Research and Quality (AHRQ), patient safety initiatives	1	Legal (UCMJ, reserve regulations)	1
		Civilian manpower and HR regulations	1

Mid-Level Nurse Leadership: Wave II Questionnaire

YOU MAY PARTICIPATE IN THIS PHASE EVEN IF YOU DID NOT COMPLETE THE WAVE 1 QUESTIONNAIRE. This is the second and last part of the study and differs in format and content from the first questionnaire. Please return the questionnaire by 15 Dec 2006. The form can be returned via e-mail, mail, or fax. Select one option to avoid duplication of results.

e-mail: Christine.palarca@trow.tma.osd.mil
Mailing address: LT Christine Palarca, Army-Baylor MHA resident
TRICARE Regional Office - West
401 West "A" St, Suite 200
San Diego, CA 92101
Fax: 619-231-4231

Please contact me at (619) 236-5348 if you have any questions. Thank you in advance for your time and insight!

Domain I – Management

I. Management – 15 Unique Items
(Frequency that item was raised during Wave 1 is shown in table)

Business management	10	Strategic planning	1
Business skills	4	Continuous process improvement (Six Sigma, Baldridge award, ISO)	1
Financial analysis/fiscal management	4	Change management and flexibility	1
Analytical ability	1	Time management	1
Critical thinking	1	Customer service	1
Evidence-based practice research	1	Knowledge of the healthcare environment	1
Navy medicine business practices	1	Management of human resources	1
Organizational leadership/Financial management: demonstrate an understanding of the financial and technological issues that impact Navy medicine now and in the future	1		

Skills, Knowledge, and Abilities Rating Scale

Directions - Please rate all of the following skills, knowledge, and abilities items according to the relevance and importance that should be placed on them in dealing with the types of competencies listed above. Indicate your answers by marking the appropriate box. **Take care to not mark multiple boxes per rating item.**

	Unimportant			---			**Extremely Important**
	1	2	3	4	5	6	7
1. Ensures the highest standards of professionalism and professional services are maintained in all situations	☐	☐	☐	☐	☐	☐	☐
2. Knowledge of basic business management practices: financial, supply, and budget	☐	☐	☐	☐	☐	☐	☐
3. Articulate business models for healthcare organizations and fundamental concepts of economics	☐	☐	☐	☐	☐	☐	☐
4. Ability to formalize a strategic business plan	☐	☐	☐	☐	☐	☐	☐
5. Financial management skills related to saving money in the in-patient setting	☐	☐	☐	☐	☐	☐	☐
6. Able to apply concepts and principles from current business literature	☐	☐	☐	☐	☐	☐	☐
7. Able to use workload management systems, including RVU calculations, budget management, creating business rules,	☐	☐	☐	☐	☐	☐	☐

template management, and provider documentation for reimbursement							
8. Understanding of DMLSS and equipment management process	☐	☐	☐	☐	☐	☐	☐
9. Budget analysis and management skills	☐	☐	☐	☐	☐	☐	☐
10. Knowledge of TRICARE reimbursement	☐	☐	☐	☐	☐	☐	☐
11. Ability to perform metric analysis and benchmarking techniques	☐	☐	☐	☐	☐	☐	☐
12. Critical thinking and problem solving skills	☐	☐	☐	☐	☐	☐	☐
13. Using evidence-based practice to analyze practical and practitioner costs to ensure cost effectiveness	☐	☐	☐	☐	☐	☐	☐
14. Ability to organize staffing patterns to integrate with operational and Navy needs	☐	☐	☐	☐	☐	☐	☐
15. Strategic thinking skills, such as conducting a SWOT analysis, forecasting, and projecting	☐	☐	☐	☐	☐	☐	☐
16. Knowledge of current continuous process improvement methodologies and metrics, such as Lean Six Sigma	☐	☐	☐	☐	☐	☐	☐
17. Ability to implement continuous process improvement to the organization	☐	☐	☐	☐	☐	☐	☐
18. Knowledge of change management theories	☐	☐	☐	☐	☐	☐	☐
19. Ability to adapt to different work environments	☐	☐	☐	☐	☐	☐	☐
20. Time management skills	☐	☐	☐	☐	☐	☐	☐
21. Able to maintain professionalism in all situations	☐	☐	☐	☐	☐	☐	☐
22. Knowledge of available resources to ensure customer needs are being met	☐	☐	☐	☐	☐	☐	☐
23. Understand, articulate, and ensure compliance with regulatory agencies	☐	☐	☐	☐	☐	☐	☐
24. Knowledge of human resource management systems	☐	☐	☐	☐	☐	☐	☐

Domain II –Leadership

II. Leadership – 8 Unique Items

(Frequency that item was raised during Wave I is shown in table)

Leadership (general)	7	Leadership role	1
Leadership development	4	Global thinking	1
Organization	4	Principles of ethics	1
Collaboration	2	Facilitator	1

Skills, Knowledge, and Abilities Rating Scale

Directions - Please rate all of the following skills, knowledge, and abilities items according to the relevance and importance that should be placed on them in dealing with the types of competencies listed above. Indicate your answers by marking the appropriate box. **Take care to not mark multiple boxes per rating item.**

	Unimportant			---			**Extremely Important**
	1	2	3	4	5	6	7
1. Ability to maintain equanimity in high stress situations	☐	☐	☐	☐	☐	☐	☐
2. Knowledge of recognition programs to include military and civilian methods.	☐	☐	☐	☐	☐	☐	☐
3. Ability to apply situational leadership concepts in peacetime and operational arenas	☐	☐	☐	☐	☐	☐	☐
4. Ability to provide visionary thinking on issues that impact the healthcare organization	☐	☐	☐	☐	☐	☐	☐
5. Able to motivate and inspire staff and colleagues to accomplish mission/tasks even in difficult work environments	☐	☐	☐	☐	☐	☐	☐
6. Politically astute	☐	☐	☐	☐	☐	☐	☐
7. Ability to apply deck plate leadership and change management	☐	☐	☐	☐	☐	☐	☐
8. Negotiation skills	☐	☐	☐	☐	☐	☐	☐
9. Ability to mentor junior nurses, provide advice on career/promotion, and teach nurses how to become managers	☐	☐	☐	☐	☐	☐	☐
10. Ability to interact with our fellow non-medical depart officers	☐	☐	☐	☐	☐	☐	☐
11. Works well within many disciplines: cross-pollinator of ideas	☐	☐	☐	☐	☐	☐	☐
12. Professional writing and communication skills	☐	☐	☐	☐	☐	☐	☐
13. Seasoned "internal compass": skills in identifying and supporting positive attributes of colleagues and junior staff	☐	☐	☐	☐	☐	☐	☐
14. Able to apply concepts of organizational change and maintenance	☐	☐	☐	☐	☐	☐	☐
15. Inspire the common vision and purpose of Navy medicine: integrate core values and knowledge of Navy medicine	☐	☐	☐	☐	☐	☐	☐
16. Sound decision-making abilities without compromising your ethical values	☐	☐	☐	☐	☐	☐	☐
17. Knowledge and experience from facilitator training, team building workshops, role as PAT leaders and/or chairing committees	☐	☐	☐	☐	☐	☐	☐

Domain III – Professional Development

III. Professional Development – 4 Unique Items
(Frequency that item was raised during Wave 1 is shown in table)

Staff development	8	Individual development plan	4
Mentorship		Continuing education/life-long learning	3
Staff educator		Advanced degree/certifications	3
Counseling/coaching			

Skills, Knowledge, and Abilities Rating Scale

Directions - Please rate all of the following skills, knowledge, and abilities items according to the relevance and importance that should be placed on them in dealing with the types of competencies listed above. Indicate your answers by marking the appropriate box. **Take care to not mark multiple boxes per rating item.**

	Unimportant			---			**Extremely Important**
	1	2	3	4	5	6	7
1. Ability to develop and promote an environment for career planning and implement measures for progression	☐	☐	☐	☐	☐	☐	☐
2. Foster growth and development of junior sailors	☐	☐	☐	☐	☐	☐	☐
3. Collaborate with senior enlisted to increase knowledge of what career counselor does, enlisted commissioning programs, C-school applications, etc.	☐	☐	☐	☐	☐	☐	☐
4. Knowledge about available staff development programs, duty stations, billets, and where to go for more information	☐	☐	☐	☐	☐	☐	☐
5. Ability to teach nurses how to become managers	☐	☐	☐	☐	☐	☐	☐
6. Ability to teach and educate novice nurses and corpsmen	☐	☐	☐	☐	☐	☐	☐
7. Knowledge of professional organizations impacting clinical practice guidelines across multiple nursing specialties	☐	☐	☐	☐	☐	☐	☐
8. Career counseling skills	☐	☐	☐	☐	☐	☐	☐
9. Correct performance deficiencies and praise performance	☐	☐	☐	☐	☐	☐	☐
10. Coaching and communication skills: ability to motivate and inspire staff and colleagues to accomplish mission/tasks and keep staff focused	☐	☐	☐	☐	☐	☐	☐
11. Ability to develop individual personal and professional growth and development plan	☐	☐	☐	☐	☐	☐	☐
12. Maintains individual medical and physical qualifications	☐	☐	☐	☐	☐	☐	☐
13. Specialty certification	☐	☐	☐	☐	☐	☐	☐
14. Subject matter expertise and knowledge in a clinical, education, or administrative track through graduate course work and degree	☐	☐	☐	☐	☐	☐	☐
15. Advanced degree in nursing (MSN)	☐	☐	☐	☐	☐	☐	☐

Domain IV – Personal Development

IV. Personal Development – 9 Unique Items (Frequency that item was raised during Wave 1 is shown in table)			
Computer/Technical Tools:	7	Creativity	1
Communication and computer skills		Drive and determination	1
Business-related computer skills		Independent self-starter	1
Competent and trained in the use of various computing programs, i.e. Excel, PowerPoint, Publisher		Principles of ethics	1
Technical knowledge		Emotional intelligence	1
Visual display of quantitative information		Team player	1
Adaptability	1	Critical thinking	1

Skills, Knowledge, and Abilities Rating Scale

Directions - Please rate all of the following skills, knowledge, and abilities items according to the relevance and importance that should be placed on them in dealing with the types of competencies listed above. Indicate your answers by marking the appropriate box. **Take care to not mark multiple boxes per rating item.**

	Unimportant			---			**Extremely Important**
	1	2	3	4	5	6	7
1. Competent and trained in the use of various computing programs, i.e. Excel, PowerPoint, Publisher	☐	☐	☐	☐	☐	☐	☐
2. Knowledge of how to use AHLTA program to help support staff personnel	☐	☐	☐	☐	☐	☐	☐
3. Skills with Excel database for statistics, spreadsheets, information presentation (making charts/graphs)	☐	☐	☐	☐	☐	☐	☐
4. Advanced skills with PowerPoint	☐	☐	☐	☐	☐	☐	☐
5. Strong computer skills, proficient in most programs (i.e. Word, PowerPoint, Excel, Access)	☐	☐	☐	☐	☐	☐	☐
6. Able to present visual display of quantitative information	☐	☐	☐	☐	☐	☐	☐
7. Ability to handle both clinical and administrative duties	☐	☐	☐	☐	☐	☐	☐
8. Creative in working with available resources	☐	☐	☐	☐	☐	☐	☐
9. Self-motivation and initiative	☐	☐	☐	☐	☐	☐	☐
10. Ability to empathize	☐	☐	☐	☐	☐	☐	☐
11. Demonstrates core values and ethical behavior	☐	☐	☐	☐	☐	☐	☐
12. Critical thinking skills	☐	☐	☐	☐	☐	☐	☐

Domain V – Clinical Growth and Sustainment

V. Clinical Growth and Sustainment – 6 Unique Items
(Frequency that item was raised during Wave 1 is shown in table)

Expertise/Subject matter expert	6	Clinical nursing skills	1
Competent expert	5	Ethical decision making	1
Advanced practice	1	Evidence-based practice	1

Skills, Knowledge, and Abilities Rating Scale

Directions - Please rate all of the following skills, knowledge, and abilities items according to the relevance and importance that should be placed on them in dealing with the types of competencies listed above. Indicate your answers by marking the appropriate box. **Take care to not mark multiple boxes per rating item.**

	Unimportant			---			**Extremely Important**
	1	2	3	4	5	6	7
1. Strong assessment skills: solid medical/surgical foundation	☐	☐	☐	☐	☐	☐	☐
2. Ability to function in multiple clinical settings	☐	☐	☐	☐	☐	☐	☐
3. Clinical instructor abilities: able to teach junior nurses and corpsmen	☐	☐	☐	☐	☐	☐	☐
4. Current skills to provide professional nursing care to patients and their families in area of expertise	☐	☐	☐	☐	☐	☐	☐
5. Knowledge of current nursing practices	☐	☐	☐	☐	☐	☐	☐
6. Ability to care for patients of all ages from cradle to grave	☐	☐	☐	☐	☐	☐	☐
7. Ability to supervise and train	☐	☐	☐	☐	☐	☐	☐
8. Post-graduate coursework	☐	☐	☐	☐	☐	☐	☐
9. Ability to obtain specialty certification	☐	☐	☐	☐	☐	☐	☐
10. Able to complete charge nurse PQS	☐	☐	☐	☐	☐	☐	☐
11. Ensure that written organizational clinical policies and procedures are reviewed in accordance with evidence-based practice	☐	☐	☐	☐	☐	☐	☐
12. Sound-decision making abilities without compromising ethical values	☐	☐	☐	☐	☐	☐	☐

Domain VI – Deployment Readiness and Interoperability

VI. Deployment Readiness and Interoperability (9 Unique Items)
(Frequency that item was raised during Wave 1 is shown in table)

Operational readiness (Wartime)	2	Knowledge of deployment platforms	1
Joint operations	2	National, Department of Defense (DoD, all branches), and Navy mission	1
Joint service interoperability	1	Global picture	1
Understanding of pre- and post-deployment resources	1	Core Naval officer competencies (Know organization, i.e. DoD not just Navy)	1
Joint environment awareness	1		

Skills, Knowledge, and Abilities Rating Scale

Directions - Please rate all of the following skills, knowledge, and abilities items according to the relevance and importance that should be placed on them in dealing with the types of competencies listed above. Indicate your answers by marking the appropriate box. **Take care to not mark multiple boxes per rating item.**

	Unimportant			---			**Extremely Important**
	1	2	3	4	5	6	7
1. Ability to prepare staff for deployments	☐	☐	☐	☐	☐	☐	☐
2. Ability to speak knowledgeably to war fighters and politicians on value of Navy nursing and healthcare	☐	☐	☐	☐	☐	☐	☐
3. Knowledge of the DoD mission and the Navy's role and goals	☐	☐	☐	☐	☐	☐	☐
4. Knowledge of pre-and post-deployment resources	☐	☐	☐	☐	☐	☐	☐
5. Formal joint military education (Naval War College, JPME Phase I certification)	☐	☐	☐	☐	☐	☐	☐
6. Ability to interact and work with our sister services in their environments	☐	☐	☐	☐	☐	☐	☐
7. Knowledge of deployment platforms and training requirements	☐	☐	☐	☐	☐	☐	☐
8. Inspires the common vision and purpose of Navy medicine: integrate core values and knowledge of Navy medicine	☐	☐	☐	☐	☐	☐	☐
9. Overall medical department knowledge	☐	☐	☐	☐	☐	☐	☐

Domain VII – Communications

VII. Communications – 6 Unique Items (Frequency that item was raised during Wave 1 is shown in table)			
Interpersonal communication skills	3	Written skills	1
Navy writing	2	Navy Knowledge On-Line (NKO)	1
Presentation	2	Conflict resolution	1

Skills, Knowledge, and Abilities Rating Scale

Directions - Please rate all of the following skills, knowledge, and abilities items according to the relevance and importance that should be placed on them in dealing with the types of competencies listed above. Indicate your answers by marking the appropriate box. **Take care to not mark multiple boxes per rating item.**

	Unimportant			---			**Extremely Important**
	1	2	3	4	5	6	7
1. Ability to communicate with professionals from multiple disciplines to do what is best for the patient	☐	☐	☐	☐	☐	☐	☐
2. Ability to empower others to action	☐	☐	☐	☐	☐	☐	☐
3. Knowledge of official correspondence methods, such as CO endorsements, RAD paperwork, letter of recommendations, investigative reports, point papers, etc.	☐	☐	☐	☐	☐	☐	☐
4. Effective communication by ability to make oral presentations to diverse audiences on nursing, healthcare and organizational issues	☐	☐	☐	☐	☐	☐	☐
5. Ability to communicate clearly across multiple arenas (civilian, military, medical, business, and community) and at various levels of the chain of command arenas	☐	☐	☐	☐	☐	☐	☐
6. Produce cogent and persuasive written materials to address nursing healthcare and organization issues to the appropriate audience	☐	☐	☐	☐	☐	☐	☐
7. Knowledge about the utility of NKO	☐	☐	☐	☐	☐	☐	☐
8. Able to deal with conflict or at least willingness to resolve conflicts	☐	☐	☐	☐	☐	☐	☐

Domain VIII – Regulatory Guidelines

VII. Regulatory Guidelines – 3 Unique Items (Frequency that item was raised during Wave 1 is shown in table)			
Overall knowledge of pertinent regulatory statutes: JCAHO, IHI, AHRQ, patient safety initiatives	1	Legal (UCMJ, reserve regulations)	1
		Civilian manpower and HR regulations	1

Skills, Knowledge, and Abilities Rating Scale

Directions - Please rate all of the following skills, knowledge, and abilities items according to the relevance and importance that should be placed on them in dealing with the types of competencies listed above. Indicate your answers by marking the appropriate box. **Take care to not mark multiple boxes per rating item.**

	Unimportant			---			**Extremely Important**
	1	2	3	4	5	6	7
1. Understand, articulate, and ensure compliance with regulatory agencies and statutes	☐	☐	☐	☐	☐	☐	☐
2. Knowledge of military regulations for active duty and reserve	☐	☐	☐	☐	☐	☐	☐
3. Knowledge of civilian HR requirements and regulations	☐	☐	☐	☐	☐	☐	☐

Respondent Background Information (for statistical purposes only)

Please take a minute to complete the following items. Fill in the blanks or mark as appropriate. Manually click on the box to reveal the drop down menus. Thank you!

Demographics:

Age: years (please enter number of years in the box)

Gender: (use drop down menu to choose most appropriate)

List Primary Subspecialty Code:

Status (Active duty or reserve): (use drop down menu to choose most appropriate)

List Current Duty Station (ex. NMC Portsmouth):

Job Title/Position:

Education: (check all that apply)

Undergraduate

BSN ☐ Bachelor of Science ☐ Other ☐

Master's

MSN ☐ MBA ☐ MHA ☐ Other ☐

Doctorate (Ph.D.)

Nurse related ☐ Non-nursing related ☐

Other post-graduate work (please list)

Other: (please list)

Experience:

Experience as a Navy/military nurse: years (please enter number of years in the box)

Years of active duty: years (enter number of years in the box)

Years of reserve duty: years (enter number of years in the box)

Experience in mid-level leadership (defined by number of years holding a Senior Nurse Executive, OIC, department head, or division officer position: years (enter number of years in the box)

Experience in current position: years (please enter number of years in the box)

Please list professional affiliations:

Use the space below for any additional comments you may want to share

End of Wave II questionnaire
Thank you for your time and consideration

Appendix C: Executive Summary for the Navy Nurse Corps Senior Leadership Delphi Study

Navy Nurse Corps Senior Leadership: The Relevant Competencies and Important Skills, Knowledge, and Abilities for Navy Nurse Executives

LT Christine Palarca

Army-Baylor Graduate Program in Health and Business Administration

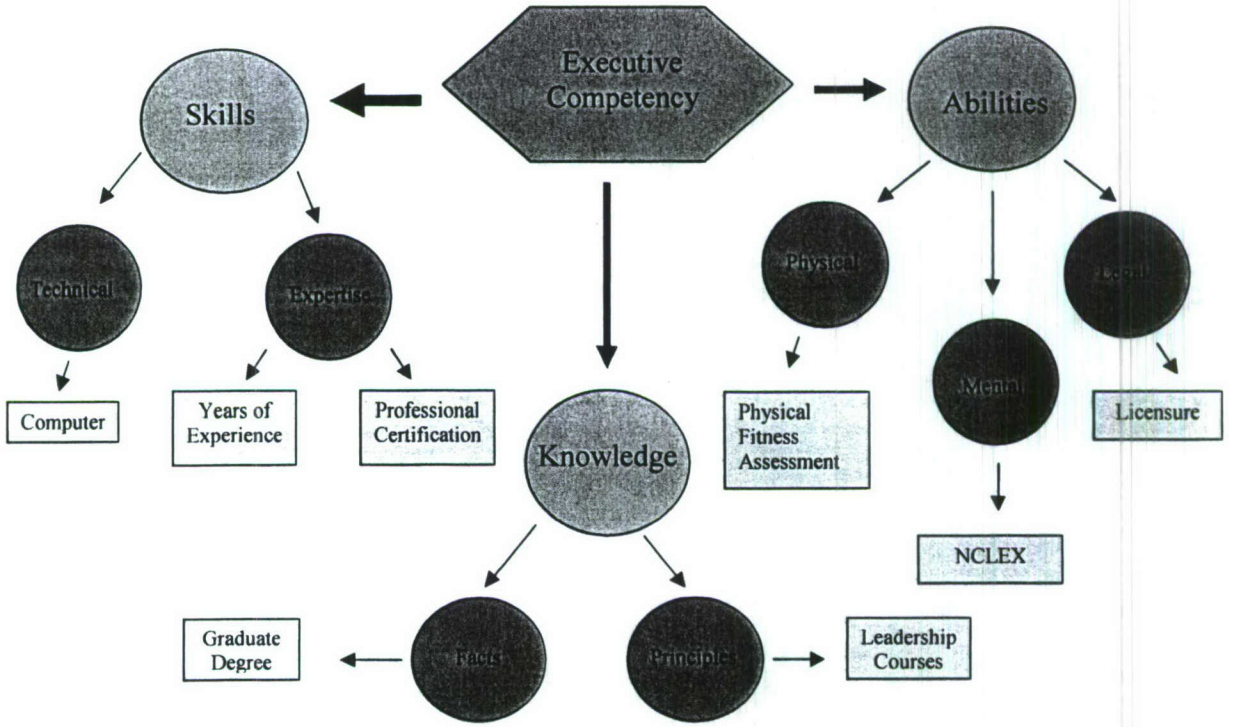
October 23, 2006

Navy Nurse Corps Senior Leadership: The Relevant Competencies and Important Skills, Knowledge, and Abilities for Navy Nurse Executives

Tasked to meet the competing missions of readiness and deployment, peacekeeping, humanitarian efforts, and health optimization for beneficiaries, Navy healthcare leaders must be ready and willing to adapt their leadership and executive skills to the ever-changing and dynamic military health system. Within Navy medicine, nurses' roles are continually evolving and advancing. "A critical lesson for the aspiring executive is the recognition that the needs of an organization and the mix of talent and character are ever evolving" (Ehrat, 2001, p. 38). The purpose of this paper is to identify the relevant competencies and important associated skills, knowledge, and abilities (SKAs) required of Navy Nurse executives. This study identifies relevant competencies and important skills, knowledge, and abilities for Navy nurse executives in the next 5-10 years.

Theoretical model

For the purpose of this study, the following definitions will be used. See Figure 1.



Competency is an element of professional performance reflecting occupation or job experience and qualification. Skills encompass technical expertise. Knowledge is the possession of facts and principles, and abilities address the physical, mental, or legal power (Hudak, Brooke, and Finstuen, 2000).

Figure 1. Defining competency.

Literature Review

The literature indicates numerous and ongoing initiatives towards competency identification and development in the field of general healthcare administration. While there have been some studies addressing the executive competencies within the civilian nurse sector, there have been limited executive competency studies within the military nurse sector. To date, there have been two nurse executive competencies devoted to the federal sector for the U.S. Army Nurse Corps and the Veterans Health Administration (Duperrior, 1995; Sutto, 2005). Both studies applied the Delphi methodology.

Using a sample of 196 senior Army Nurse Corps officers, Duperrior (1995) forecasted the critical issues and associated skills, knowledge, and abilities (SKAs) needed to face those issues. The distinguishing and relevant competencies, as rank ordered by the Army nurse executives, were leadership, managed care, business management, staffing management, quality management, licensure and education, and ethics. The study concluded the federal nurse executive of the future must not only be a visionary but should also possess specific business and corporate knowledge. Particularly, the nurse executive must be competent in strategic management, multi-disciplinary interaction, and collaboration. Additionally, the nurse executive must be knowledgeable in financial, quantitative, and communication skills. Given the dynamic nature of the military healthcare environment, the blend of these identified competencies and SKAs will assist the military nurse executive to address the critical issues and respond with adeptness (Duperrior).

To obtain a consensus of opinion from federal nurse executives, Sutto (2005) solicited the expert opinion of 146 Veterans Health Administration (VHA) current nurse executives to identify what they believe are the necessary competencies for success. As a comparison group, a sample of 168 future VHA nurse executives was queried to ascertain and differentiate the relevant competencies and SKAs required to perform at the senior executive level now and in the future. Eight competency domains emerged as the dominant priorities for VHA nurses: organizational stewardship, interpersonal effectiveness, systems thinking, technical thinking, creative thinking, flexibility/adaptability, customer service, and personal mastery. The most important SKAs associated with these competencies were ability to allocate resources, conflict resolution skills, ability to see all sides of an issue, ability to lead change, creation of

opportunities for staff development, high level of emotional intelligence, ability to project staffing needs and overtime requirement, integrity and ethical conduct, openness to new ideas, ability to develop/maintain work environments attractive to nurses, ability to continuous learn, and ethical decision making ability. Out of those SKAs, ethical decision-making was the most highly rated SKA. This indicates a potential emerging trend not previously emphasized by the executive competency literature (Sutto, 2005).

Methodology and Experimental Design

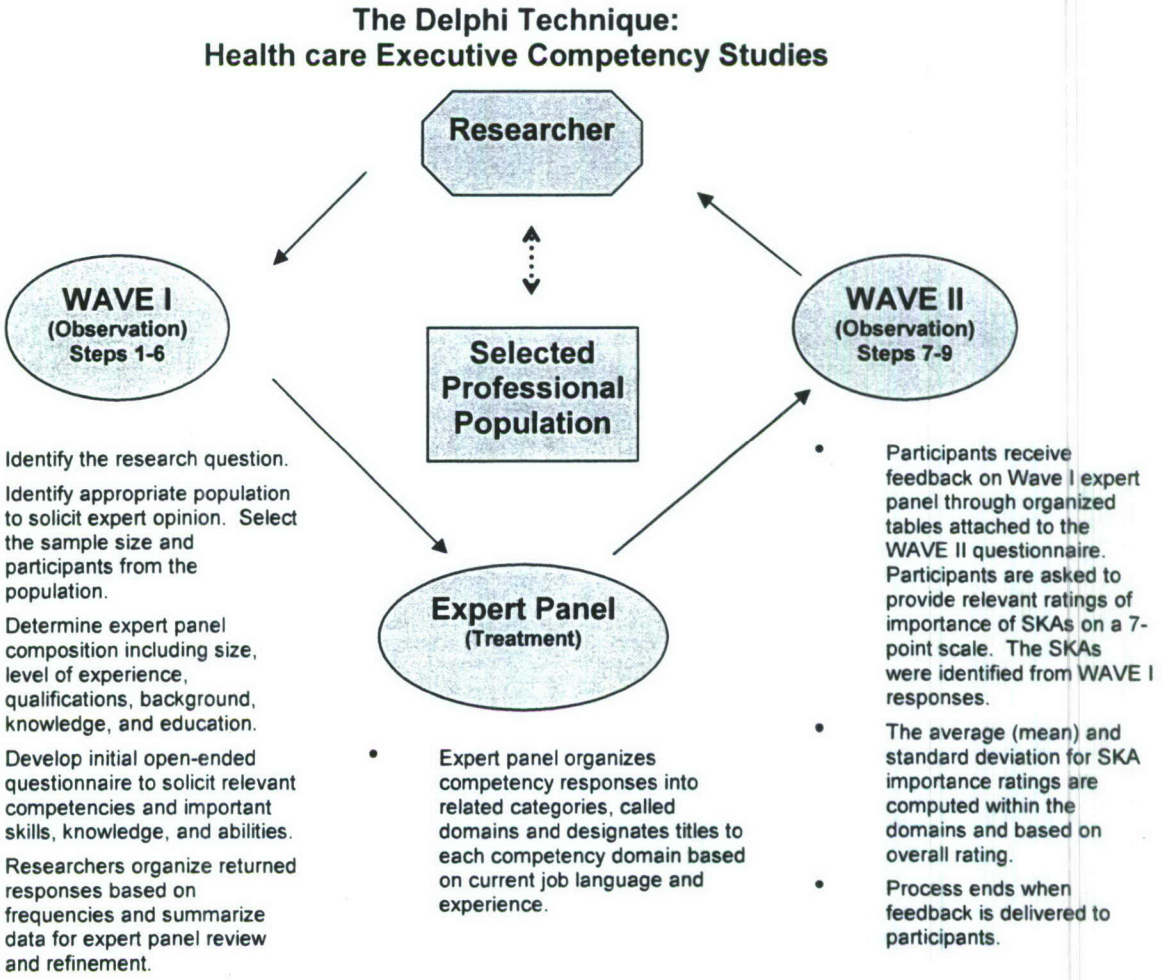


Figure 2. Overview of the Delphi methodology used in the Army-Baylor studies

Originally developed by the Research and Development (RAND) Corporation, the Delphi technique has been in use since the late 1960s. The Delphi method is used to determine priorities and forecast future trends (Dalkey, 1969; Delbecq, A. L., Van de Ven, A. H., & Gustafson, D. H., 1975). "The structure of the technique is intended to allow access to the positive attributes of interacting groups (knowledge from a variety of sources, creative synthesis, etc.) while pre-empting their negative aspects (attributable to social, personal, and political conflicts, etc.)" (Rowe & White, 1999, p. 354). The process involves a series of questionnaires and ends when consensus has been achieved among participants or when sufficient information has been exchanged. The solicitation of group consensus induces an intrinsic sense of optimism, because when the Delphi is used for policy, forecasts or recommendation, the respondents are more likely to be predisposed to action after brainstorming. Consequently, there is the potential to promote change (Bowles, 1999).

Over 20 healthcare executive competency Delphi studies have been conducted over the past decade by the Army-Baylor faculty and graduate researchers (Finstuen & Mangelsdorff, 2005). Replicating the experimental design from previous U.S. Army-Baylor healthcare executive Delphi studies (see Figure 2), this study identifies the relevant competencies current Navy Nurse executives will require in the future and defines the associated important skills, knowledge, and abilities (SKAs) required to successfully execute the identified competencies. While the Delphi process can have multiple iterations, this study employed two phases identified by Wave I and Wave II.

Sampling: Selection of Participants

To determine the relevant competencies and important associated skills, knowledge, and abilities (SKAs) required of Navy Nurse executives, a convenience sample of 200 Navy nurses holding the rank of O-6 or greater was identified. For the purpose of this study, the following selection criteria for respondents were used:

(1) Nurse Corps officers, active duty and reserve, currently holding the rank of O-6

(2) Respondents must possess recent experience (within the last 2 years) at the Directorate (Executive Steering Committee Level), Headquarters Staff (Bureau of Medicine and Surgery), Senior Nurse Executive, Executive Officer, and Commanding Officer position.

Results of Data Analysis and Findings

WAVE I: Analysis of Forecasted Trends and Analysis

In April 2006, questionnaires were sent to 200 active duty and reserve senior Navy Nurse Executives (Commanding Officers, Executive Officers, Senior Nurse Executives, and other senior Navy nurse executives). Thirty-eight of the 200 nurse executives responded, for a response rate of 19% (90% representing the active duty and 10% representing the reserves). This response rate is considered adequate based on response rates from previous executive skills studies employing the Delphi technique (Hudak, Brook, and Finstuen, 2000). The relevance of a given professional competency is computed as the sum of independent frequencies of response for that particular item. A preliminary list of 178 competencies (108 unique competencies) and fifteen content domains was generated and presented to the expert panel for analysis.

Refining the Competency Domains: Content Analysis

A six member panel of senior nurse executives was assembled in May to analyze the content and significance of the preliminary fifteen content domains. As recognized leaders within their field, their professional backgrounds provided a robust occupational and experiential perspective and represented 163 years of nursing experience, 152 years of Navy service and 39 years of nurse executive experience. Collectively, the group earned nine advanced professional degrees including one doctorate degree and master's degrees in nursing, nursing administration, health services management, and education.

The expert panel was tasked to sort, combine, reduce, and/or expand the preliminary fifteen competency domains and 108 unique competency items (out of 178 total competencies) from the first Delphi Wave into a set of meaningful categories. Their analysis resulted in both consolidation and elimination of competency domains and competency items, leaving a total of six competency domains and 92 unique competency items (out of 178 total competencies). The expert panel identified an appropriate title for each competency domain: business management, executive leadership, professional development, global awareness/interoperability, communications, and personnel management.

Wave II: Analysis of Content

The expert panel results were used to form the second questionnaire for the Delphi's second iteration. The SKA items of the competencies were merged into 100 SKA item statements. The competency domains were rank ordered by frequency of response. Representation of an SKA item was proportional to its frequency within each domain.

In Wave II, the same pool of respondents was tasked to rank order the associated skills, knowledge, and abilities of the identified relevant competencies by assigning importance ratings on SKA items based on a 7-point scale, anchored at the extremes from 1= unimportant and 7= extremely important. Ninety-three of the 200 nurse executives responded, for a response rate of 47% (70% representing the active duty group and 30% representing the reserve group).

The importance of a given SKA item is computed as the arithmetic average of relative item ratings of respondents on the 7-point bipolar scale, and the mean reflects the direction and magnitude of overall judgment to indicate relevance within the competency domain. On average, all 100 SKA items were rated at 5 or above by all respondents indicating relative importance. Using the entire respondent group, the highest average importance rating was 6.78 and the lowest average rating was 5.24. The top SKA item was: Maintains the utmost integrity: has the trust of all members inside and outside the organization. See tables 2-4 for rankings.

Methods of achieving validity and reliability

Validity and reliability of measurement was accounted for this research endeavor. Face validity was present because all content will be field generated in current job terms. Content validity was emphasized by the participation of an expert panel. Construct validity was attained through the replication of data-gathering methods and analysis of previously published Delphi technique studies. Cronbach's coefficient alpha was used to assess the degree of inter-rater reliability within response categories and was statistically significant (>.70) for each group: all respondents, active duty, reserve, CO/XO, and SNE.

Findings and Utility of Results

Because this study identifies the relevant competencies and important SKAs necessary for the future Navy nurse executive, it adds to the continued reliability and validity of the use of the Delphi technique. The results of the study will better prepare current nurse leaders in their task of mentoring upcoming nurse leaders. Future nurse leaders may identify their personal strength and weakness areas in order to plan their self improvement. Because it provides a means to assess adequacy and relevance of current education and training curriculums, education and training courses may be modified to more fully address the requisite skills, knowledge, and abilities required to achieve the relevant competencies.

References are available upon request. Ethical considerations were ensured throughout the research process. Anonymity of participants was safeguarded. Participation was voluntary.

Table 1. Summary of Demographic Data for All Respondents

Variable	Nurse Corps Officers, O-6 rank (n=93) Mean ± SD	No. (%)
Age, years	50.52 ± 4.49	-
Experience		
Navy/military nurse	23.32 ± 4.32	-
Healthcare executive	6.64 ± 6.34	-
Sex		
Female	-	74 (79.6)
Male	-	19 (20.4)
Status		
Active duty	-	65 (69.9)
Reserve	-	28 (30.1)
Degree Obtained[a]		
Masters		
MSN	-	58 (62.4)
Other	-	29 (31.2)
MHA	-	8 (8.6)
Doctorates		
Nursing	-	16 (17.2)
Other	-	11 (10.8)
Professional Affiliation[a]		
Sigma Theta Tau	-	13 (14.0)
ACHE	-	11 (10.8)

SD = standard deviation
[a]Categories are not mutually exclusive

Table 2. Relevant Competency Domains and Top 3 SKA Items Within Each Domain

Domain	#1 SKA	#2 SKA	#3 SKA
Business Management	Strategic planning and management skills	Ability to articulate nursing contributions to military medicine and impact within business plan: breaks out nursing contributions so it is not considered "just part of the overhead"	Ability to interpret data on which to base decisions
Executive Leadership	Maintains the utmost integrity: has the trust of all members inside and outside the organization	Team-building: collaborate with all disciplines as part of the healthcare team	Communication skills
Professional Development	Communication skills: ability to communicate in all forms	Ability to lead and mentor junior personnel	Ability to hold all accountable for personal and professional actions
Global Awareness and Interoperability	Ability to lead and manage change	Ability to dialogue with Line Navy and other military leadership regarding military medicine	Ability to develop a plan to ensure adequate and appropriate training of personnel prior to operational deployments
Communications	Ability to actively listen	Ability to communicate across all levels of the healthcare continuum—from the perspective of the patient, nurse, health organization, and business organization	Interpersonal skills: connect with your people, know your people and your colleagues, be forthright, which is different than being brutally honest.
Personnel Management	Mentoring and counseling abilities with military and civilian staff	Ability to be creative with staffing and scheduling	Knowledge of factors that affect retention, such as work hours and job satisfaction

Table 3. Top 20 SKAs According to Rankings by Senior Nurse Corps Officer (O-6) Group, n=93

Rank	Competency Domain	SKA Item	Mean	SD
1	Executive Leadership	Maintains the utmost integrity: has the trust of all members inside and outside the organization	6.78	0.46
2	Professional Development	Communication skills: ability to communicate in all forms	6.71	0.53
3	Professional Development	Ability to lead and mentor junior personnel	6.70	0.48
4	Communications	Ability to actively listen	6.70	0.51
5	Professional Development	Ability to hold all accountable for personal and professional actions	6.68	0.47
6	Communications	Ability to communicate across all levels of the healthcare continuum—from the perspective of the patient, nurse, health organization, and business organization	6.68	0.54
7	Executive Leadership	Communication skills	6.66	0.52
8	Communications	Interpersonal skills: connect with your people, know your people and your colleagues, be forthright, which is different than being brutally honest.	6.66	0.56
9	Executive Leadership	Team-building: collaborate with all disciplines as part of the healthcare team	6.62	0.55
10	Global Awareness and Interoperability	Ability to lead and manage change	6.62	0.62
11	Professional Development	Ability to build morale: motivational skills	6.57	0.67
12	Personnel Management	Mentoring and counseling abilities with military and civilian staff	6.57	0.54
13	Executive Leadership	Ability to clearly identify the mission and the best way to meet the mission	6.56	0.58
14	Executive Leadership	Ability to motivate all levels of personnel to achieve goals that initially seemed impossible	6.54	0.64
15	Professional Development	Ability to influence people, processes, and structures to bring about needed change	6.53	0.62
16	Communications	Effective writing skills	6.52	0.70
17	Business Management	Strategic planning and management skills	6.49	0.75
18	Business Management	Ability to articulate nursing contributions to military medicine and impact within business plan: breaks out nursing contributions so it is not considered "just part of the overhead"	6.49	0.71
19	Executive Leadership	Ability to be flexible without sacrificing quality	6.49	0.64
20	Professional Development	The ability to have and to exercise a positive impact on the profession of nursing	6.49	0.58

Table 4. Comparison of Top 10 Rankings by Entire Group Compared to All Groups.

Rank by Entire Group, n=93	Rank by AD, n=65	Rank by Res, n=23	Rank by CO/XO, n=9	Rank by SNE, n=25	Competency Domain	SKA Item
1	1	1	1	1	Executive Leadership	Maintains the utmost integrity: has the trust of all members inside and outside the organization
2	4	2	3	7	Professional Development	Communication skills: ability to communicate in all forms
3	2	11	5	2	Professional Development	Ability to lead and mentor junior personnel
4	5	4	12	6	Communications	Ability to actively listen
5	3	9	6	5	Professional Development	Ability to hold all accountable for personal and professional actions
6	6	6	16	3	Communications	Ability to communicate across all levels of the healthcare continuum—from the perspective of the patient, nurse, health organization, and business organization
7	9	3	2	8	Executive Leadership	Communication skills
8	8	5	4	13	Communications	Interpersonal skills: connect with your people, know your people and your colleagues, be forthright, which is different than being brutally honest.
9	10	7	9	14	Executive Leadership	Team-building: collaborate with all disciplines as part of the healthcare team
10	7	8	7	11	Global Awareness and Interoperability	Ability to lead and manage change